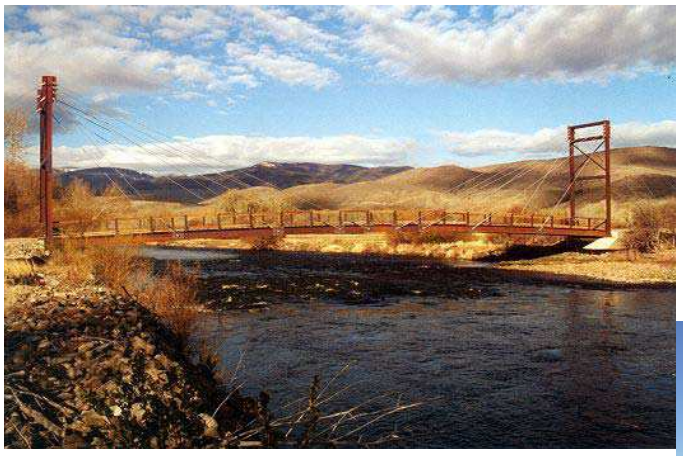
LaMarche Creek Ranch

Environmental Assessment

Final Draft



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11/25/08

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PURPOSE AND NEED

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Project History

The project location is approximately 25 miles west of Divide, Montana, to the south of Highway 43. Currently the majority of the land owned by the Spear Colorado, LP (K.L. Spear) is inaccessible due to being surrounded by government owned lands that do not have roads running through them. The United States Forest Service lands to the south, BLM lands to the west, State lands to the east and the Big Hole River to the north surround the property. Ranch Equipment used in management of the property accesses the south side of the Big Hole River by fording. The proposed bridge would eliminate fording of the river and provide administrative access to public lands year round.

Since the draft EA was circulated some of the comment issues have been incorporated into this final draft.

1.2 Proposed Action

The proposed project is a bridge crossing the Big Hole River to allow year round access to approximately 411 acres of private property and to allow administrative access to state and federal lands. The proposed project would include approximately 1200 L.F. of a 16 foot wide gravel road, a 20 foot long timber or concrete bridge, and 220 foot long cable stay bridge over the Big Hole River.

1.3 Proposed Project Area Description

The proposed project is located in Beaverhead and Anaconda-Deer Lodge Counties off of Highway 43, approximately 25 miles west of Divide within the following legal description:

Township	Range	Section
2 N	13 W	35

A location map is shown in Figure 1-1.

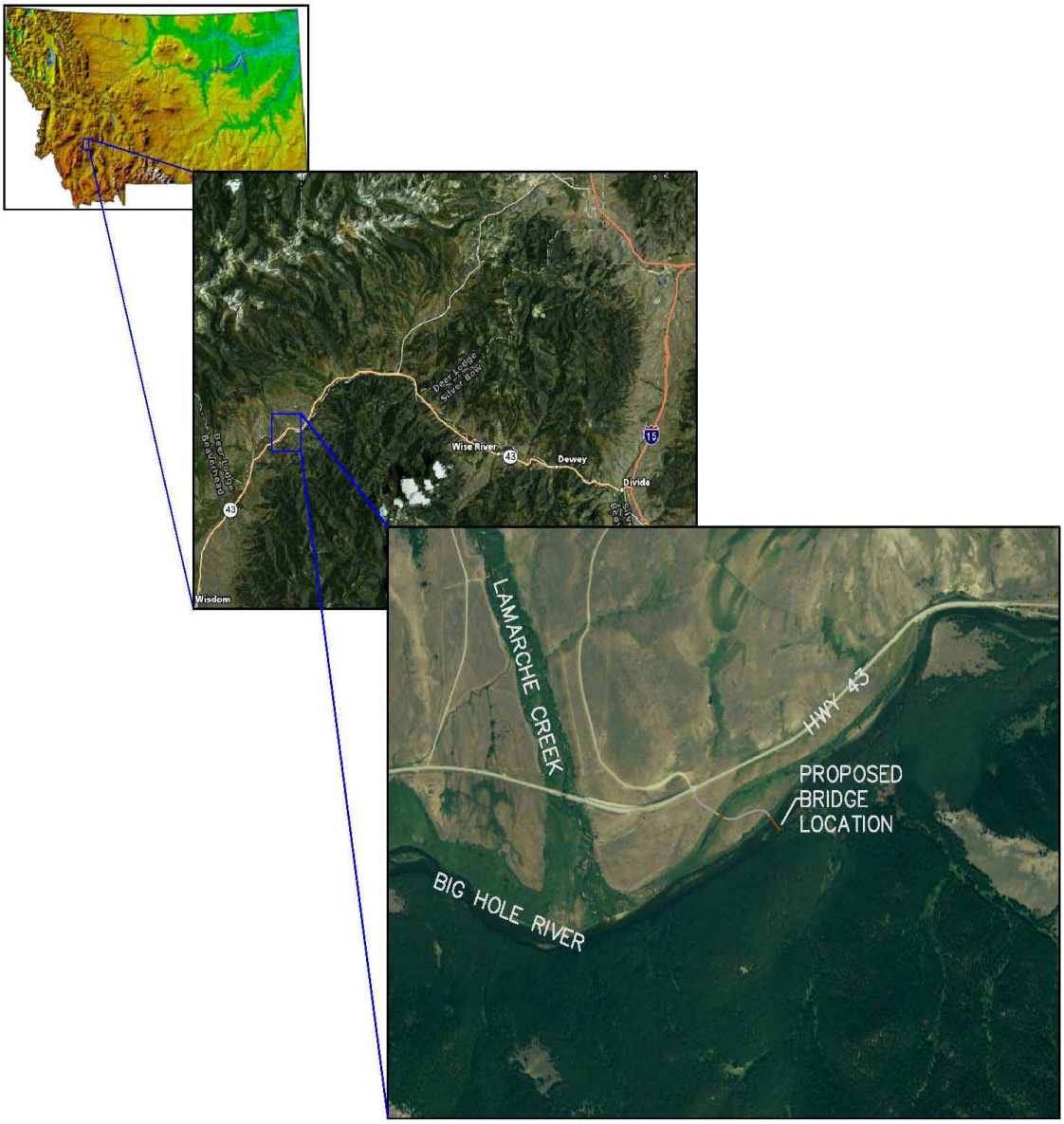


Figure 1-1 Project Location Map

1.4 Purpose of the Proposed Action

The purpose of this project is to access privately owned lands south of the Big Hole River so as to be able to manage the land through timber thinning and agricultural use. Utilities including electric and telephone would also be installed to allow for future construction.

ALTERNATIVES

2.0 ALTERNATIVES

This section describes the alternatives that were developed for the proposed bridge project, explains which ones were retained based on their ability to meet the Purpose and Need, and describes alternatives that were eliminated from further evaluation.

2.1 Development of Alternatives

Five alternatives were developed and considered for this project.

- The No-Build Alternative would maintain the existing conditions, leaving the property to the south side of the Big Hole River inaccessible except by fording.
- Alternative A is shown in white in Figure 2-1 and is an 18 foot wide road beginning at the Dickie Bridge crossing north of Wise River, Montana off of Highway 43. It would require more than ten miles of road to be built or improved through United States Forest Service lands.
- Alternative B is shown in green in Figure 2-1 and would involve a 260 foot bridge and approximately 3275 L.F. of gravel road.
- Alternative C is shown in light blue in Figure 2-1 and includes two bridges, a 220 foot long bridge and a 20 foot bridge, along with approximately 1200 L.F. of gravel road connecting to Highway 43.
- Alternative D is shown in red in Figure 2-1 and is an 18 foot wide road beginning at the Dickie Bride crossing north of Wise River, Montana off of Highway 43. This alternative would require more than eight miles of road to be built or improved through State, BLM, and privately owned lands.

Figure 2-1 Alternatives

2.2 Alternatives Evaluation Process

Alternative A proposes to access the property from the south. The proposed 10 mile, 18 foot wide gravel roadway would begin at the Dickie Bridge crossing and follow the Big Hole River north then curving to the southwest following Bryant Creek and then finally turning back to the north along Pony Creek. The first 6 miles would follow existing roadways. The next approximately 2 miles of the road would require expanding and widening United States Forest Service (USFS) trails. The final two miles along Pony Creek would be new road construction. A review of the United States Forest Service map of the area shows that the trails are 4x4 quality trails at best and would necessitate a large amount of improvements.

A grading analysis was performed and a profile of the existing ground was developed and is shown in Figure 2-2. Since the road follows river and creek beds there is potential for disturbing wetlands. As shown in Figure 2-8 numerous drainages would be crossed using this alternative. The land through which the road would be constructed is heavily forested and would require removal of trees. The road would be constructed up and over the hillside and would be visible from far away, disturbing the view shed. Year round access would also not be possible with this alternative.

The wildlife biologist for the Montana Fish Wildlife and Parks (MFWP) has said that alternative A is impractical and should be rejected from further consideration. The USFS has also said that they would not support a road going across Forest Service land to access private land, when there is closer access from adjacent private lands.

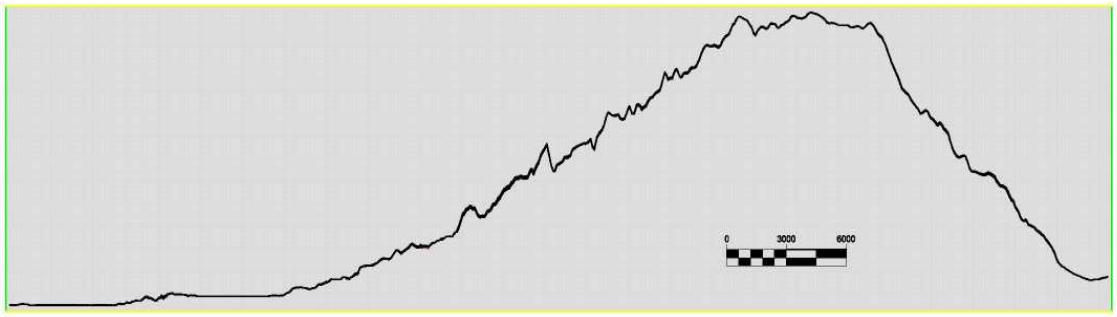


Figure 2-2 Profile Alternative A

Alternative B would require a 260 foot bridge crossing the Big Hole River and about 3275 L.F of gravel roadway. However, the section of the Big Hole River at this alternative location is in a deep pool area and may not be very stable. This could result in additional construction before the design life of the bridge would normally warrant. The approach onto the highway would be located on a curve and would have safety concerns relating to sight distances. A profile of the existing ground for this alternative is shown below in Figure 2-3.

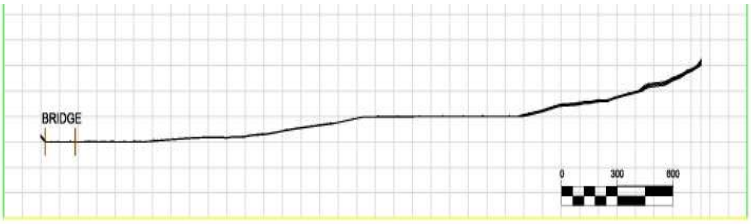


Figure 2-3 Profile Alternative B

Alternative C proposes a 220 foot bridge crossing the Big Hole River, a 1200 L.F. gravel roadway connecting to Highway 43 and an additional 20 foot bridge crossing a wetland flood area created by an old irrigation channel. A 20 foot bridge is proposed in place of a culvert to allow the seasonal water to pass underneath more freely than would be possible with a culvert. The 220 foot bridge would be a single span bridge with the abutments placed outside of the river channel. The environmental footprint would be minimal when compared to the other alternatives, as shown in Table 2.1.

Additionally, historic photos and research suggests that this section of the river is stable and would not be as subjective to the meandering and migration of the river as alternative B is; as can be seen from Figures 2-5 and 2-6. This location also minimizes visual impacts. The alignment of Highway 43 near this location is such that the bridge would only be visible for approximately 1.5 minutes from the window of a moving vehicle. Also, a recreationist floating on the Big Hole River would only be able to see the bridge for approximately 15 minutes. A profile of the existing ground for this alternative is shown in Figure 2-4.

Figure 2-4 Profile Alternative C

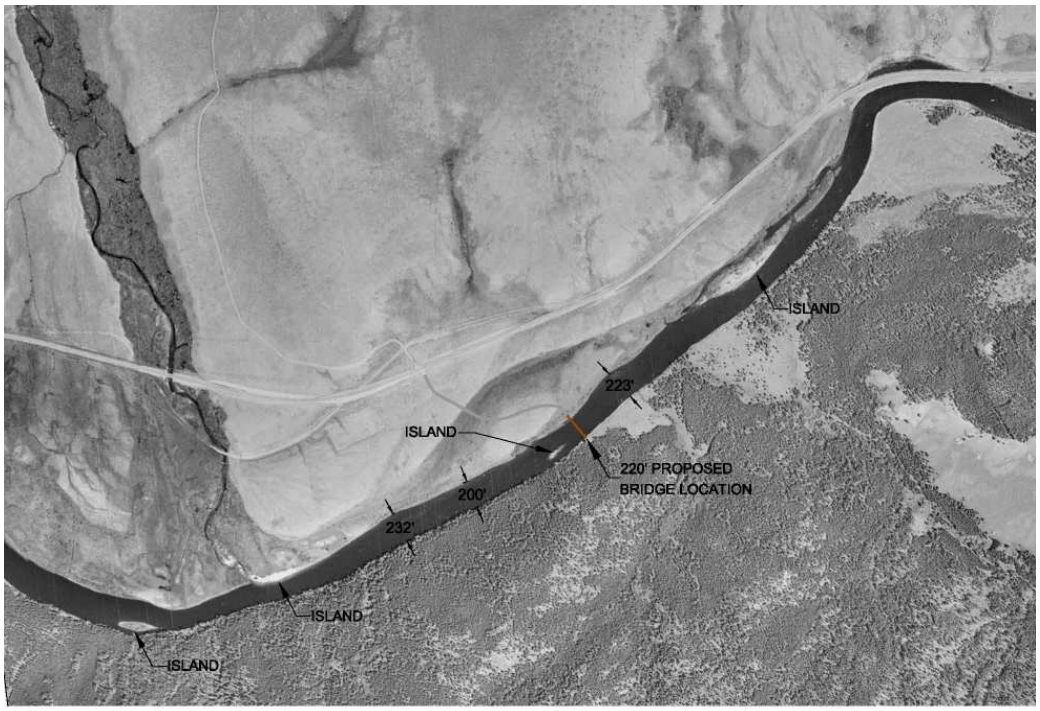


Figure 2-5 1955 Aerial photo

Figure 2-6 2006 Aerial photo

Alternative D proposes an 8 mile road beginning at the Dickie Bridge crossing, off of Highway 43, and follows existing public roads for approximately 2.5 miles. The road would then enter the Ralston Ranch property and BLM land before crossing into the Reinhardt Ranch. Approximately 3 miles of road through State lands would also need to be constructed before finally reaching K.L. Spear property. The 3 miles of road through the State lands would include approximately 1.5 miles of existing trails/logging roads. Numerous drainages and wildlife crossings would be disturbed using this alternative. The profile of the existing ground for alternative D is shown in Figure 2-7. A landownership map is shown in Figure 2-8.

The Reinhardt's and Ralston's have both been contacted and neither owner would be interested in granting an easement to K.L. Spear to build a road across their property to access his. Furthermore the wildlife biologist for the MFWP has said that alternative D is impractical and should be rejected from further consideration.

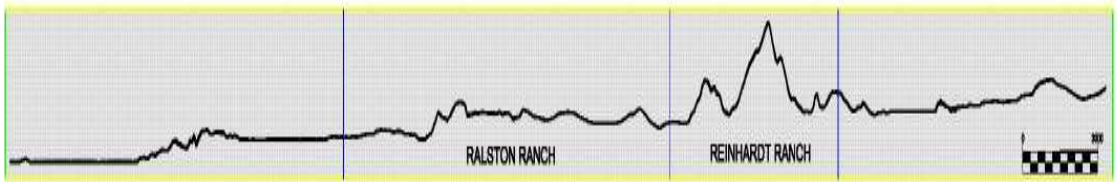


Figure 2-7 Profile Alternative D

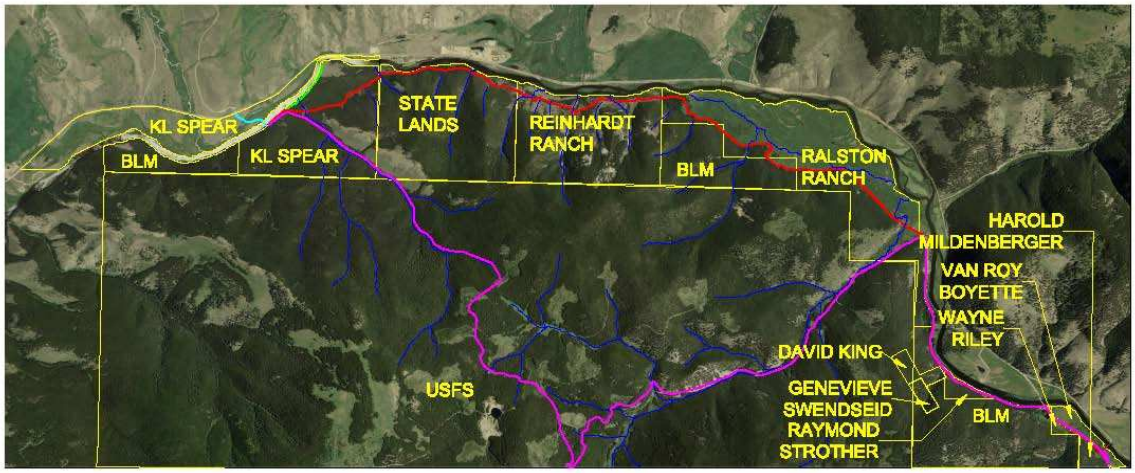


Figure 2-8 Landownership Map (Approximate based on the best available information provided by cadastral.mt.gov/)

LEGEND

- ALTERNATIVE A
- ALTERNATIVE B
- ALTERNATIVE C
- ALTERNATIVE D
- DRAINAGES

2.3 Alternatives Eliminated from Further Evaluation

Alternative's A and D have large environmental footprints, as shown in Table 2-1, which along with the comments from the MFWP, the USFS and the private property owners has eliminated them from further evaluation. The footprint for Alternatives A and D is a 30 ft. wide area along the length of roadway. Alternatives A and D propose 18 ft. wide roads across steep terrain that would at a minimum effect 6 ft. of land to either side of the road.

Alternative B's potential for reconstruction in the near future due to migration of the river along with highway access and safety concerns has eliminated it from further evaluation as well. Alternative C has a minimal environmental footprint, crosses a stable section of the river, and provides year round access to the property owned by the K.L. Spear on the south side of the Big Hole River.

Table 2.1
Alternative Comparison-Physical Impacts

Criteria	Alternative A	Alternative B	Alternative C	Alternative D
L.F. Roadway	54992	3275	1200	43905
L.F. Bridges	0	260	240	0
Estimated total earthwork (cubic yards)	120000	3600	1300	130000
Impacted area: Footprint (Acres)	44	1.2	.6	33.5

2.4 Identification of the Preferred Alternative

Alternative C has been selected as the preferred alternative due to its ability to satisfy the purpose and need of the proposed project, while minimizing the impacts when compared to the other alternatives. Two bridges are required for alternative C. The small bridge is proposed to minimize wetland habitat impacts. The larger bridge will span the entire width of the Big Hole River with no piers placed in the waterway.

The banks will be minimally affected by the new structure and restoration of Arctic Grayling habitat along this section of the river will be incorporated into the construction plans following the recommendations of the U.S. Fish and Wildlife Service's "Candidate Conservation Agreements with Assurance". This agreement is between non-Federal property owners and the U.S Fish and Wildlife Service. The agreement ensures that property owners who voluntarily agree to manage their lands or waters to remove threats to the Arctic Grayling receive assurances against additional regulatory requirements should that species be subsequently listed under the Endangered Species Act (ESA).

Jim Magee with the MFWP and the previous owners of the property now owned by K.L. Spear completed conservation projects on the LaMarche Creek Tributary to improve the health of the system. K.L. Spear has been in contact with Mr. Magee and plans to continue with these efforts. Alternative C is illustrated in more detail in Figure 2-9.

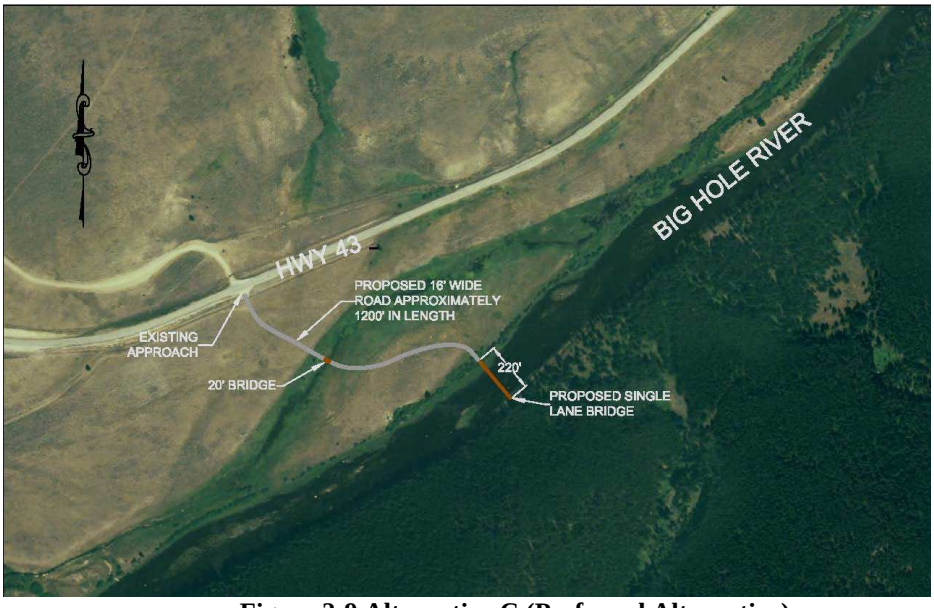


Figure 2-9 Alternative C (Preferred Alternative)

IMPACTS AND MITIGATION

3.0 IMPACTS AND MITIGATION

3.1 Land Use/ Right-of-Way and Easements/ Utilities

Land Use

The proposed project lies almost entirely on private lands, except where the bridge crosses the Big Hole River. The state owns the river bed from ordinary low water mark to ordinary low water mark. The vegetation in the immediate project area is dominated by evergreen forests, native grasses, and willows. The Big Hole River runs from the southwest to the northeast through the proposed project area and is used primarily for recreational fishing.

The land owned by K.L. Spear to the north and to the south of the Big Hole River is currently used for cattle ranching. The property has an agricultural lease to a local rancher by the name of John Reinhardt. Mr. Reinhardt manages weeds, fences and runs cattle on the property from June 1st to September 10$^{th.}$. By providing access to the southern property this use could be expanded on. Neighboring ranching or irrigation practices will not be affected by the proposed project.

The small 20 ft bridge has been proposed in place of culverts to avoid restricting the flow of water through the channel. No existing irrigation features will be affected by the proposed project.

Right-of-Way and Easements

A portion of the Big Hole River, that the project crosses, is owned by the state; a Right of Way in the form of an easement will need to be obtained from the Montana Department of Natural Resources and Conservation (DNRC). The bridge will span the river bed and no physical construction, improvements, or disturbance will be required on state property.

Utilities

No utilities have been observed within the proposed project area. No utility relocations are anticipated, although new power and phone lines will be placed under the roadway during construction. The application for a Right of Way for the anticipated utilities was included in the DNRC easement application.

Mitigation

An application for an easement in state lands has been submitted to the DNRC unit in Dillon. The DNRC has subsequently informed Anderson Engineering that the State will not move forward with the easement application until all other necessary permits have been secured. These permits include:

- 310 Permit from the Beaverhead Conservation District
- 310 Permit from the Anaconda-Deer Lodge Conservation District
- Nationwide 404 Permit from the Army Corps of Engineers
- Big Hole River Conservation Development Permit from Anaconda-Deer Lodge County
- Anaconda-Deer Lodge Development Permit
- MDOT Approach Permit
- Floodplain Permit from Beaverhead County
- Floodplain Permit from Anaconda-Deer Lodge County

The 310 permit from the Beaverhead Conservation District was issued on August 22, 2008. The 310 permit from the Anaconda-Deer Lodge Conservation District was issued on August 19, 2008. The Nationwide 404 permit from the Army Corps of Engineers was issued on July 25, 2008. The Big Hole River Conservation Development permit from Anaconda-Deer Lodge County has not yet been issued. The DOT Approach permit was issued on October 20, 2008. The Floodplain permit from Beaverhead County was issued on October 24, 2008. The Floodplain permit from Anaconda-Deer Lodge County has not yet been issued. Copies of all the approved permits can be found in Appendix A. K.L. Spear and Anderson Engineering will comply with all the permits and conditions listed there in.

3.2 Social

This section describes general community characteristics as well as park and recreational opportunities found near the proposed project area.

The population in the proposed project area is a sparsely distributed ranching community. Highway 43 also carries traffic to surrounding and nearby recreational areas. As shown in Figure 3-1, Highway 43 is the main access road for small towns in the area and access for camping and hiking trails.

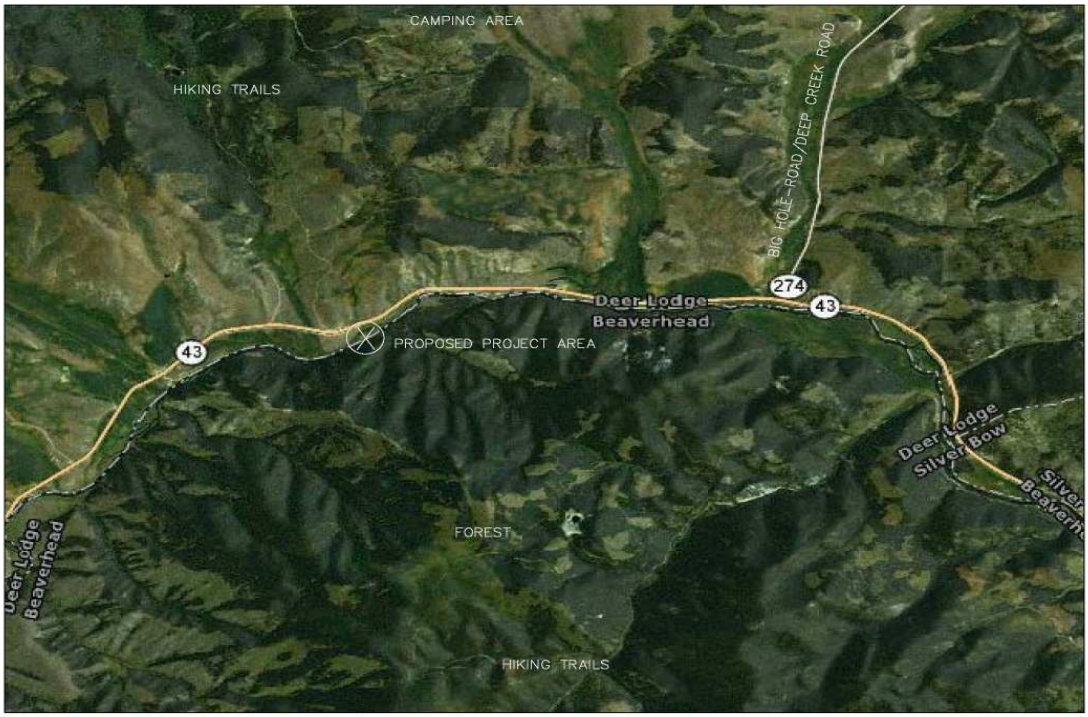


Figure 3-1 Area Recreation Map

According to *Paddling Montana* by Hank and Carol Fischer the most heavily floated section of the Big Hole lies between Divide and Glen, which is downstream of the project location. Fishermen and waterfowl hunters also occasionally float from Wisdom to Wise River through the proposed project location. The MFWP and local outfitters were contacted by Anderson Engineering to determine if any statistical information is available pertaining to the number of floaters/recreationists that use the section of the river that the bridge would cross. Currently no such information is available.

The local community has voiced concerns regarding appropriate setbacks from normal high flows to avoid injury to the bridge and adequate clearance so that the structure would not pose a barrier to floaters. The proposed bridge has been designed to allow the abutments to be placed outside of the ordinary high water marks on both sides of the river to minimize flow restrictions on the river as much as reasonably possible. Also, the proposed bridge would have a 6.8 ft clearance between the bottom of the bridge deck and the water surface elevation during normal flows. An agreement would also be filed that would insure the immediate removal of debris from the river in the event of a failure.

K.L. Spear is interested in participating in a Block Management plan that would be included in the agricultural plan as a benefit to the public. The agricultural plan is a work in progress and currently includes: fire management, timber thinning and a grazing plan. Block Management plans are part of a cooperative program between private landowners and MFWP. Block Management helps landowners manage hunting activities and provides the public with free hunting access to private land, and sometimes to adjacent or isolated public lands. Block management plans can include fishing access as well as big game hunting. There is no direct charge to hunt on Block Management lands. Fees for Block Management are assessed automatically when you buy a hunting license (MFWP). The easement would guarantee public access under an approved Block Management plan.

The appearance of the bridge also seems to be a key concern for many individuals in the community. Anderson Engineering has taken this issue into account from the beginning and has made every effort to design a bridge that is as unobtrusive as possible. The width of the bridge deck has been reduced to 12 ft verses the standard 24 ft and is 21 inches in depth. The bridge will be constructed of self-weathering steel that turns brown. There will be no middle pier in the river and willows will be transplanted around the outside of the bridge abutments.

The road leading up to the bridge would be built at grade and be reinforced with riprap to allow floodwaters to flow directly over the roadway without causing the road material to be washed away. A cross section of the roadway is shown in Figure 3-2. The incorporation of the small 20 foot bridge along the roadway is proposed to avoid restricting the natural flow of water through the irrigation channel that eventually flows into the Big Hole River. No new diversion of irrigation waters are proposed by this project.

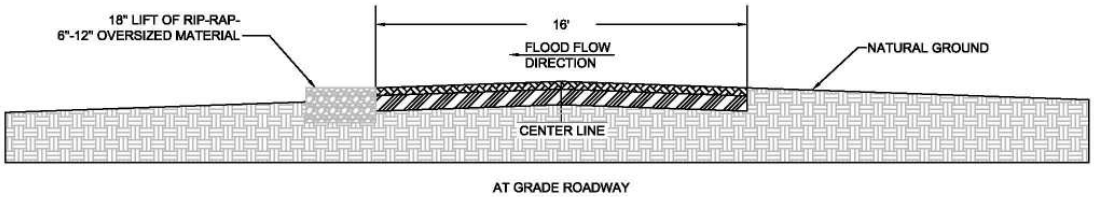


Figure 3-2 Road Cross Section

Additional benefits to the public would include an easement for the state to access landlocked state lands from K.L. Spears property for timber thinning and fire management. The property value would also be expected to increase, as would the taxes assessed on the property. The property taxes on the land are currently around $200 per year.

Mitigation

- Bridge abutments outside of the ordinary high water mark
- 6.8 foot clearance between the bottom of the bridge deck and the water surface during normal flows
- An agreement that insures immediate removal of debris in the event of a bridge failure
- Block Management program
- 12 foot bridge deck width
- 21 inch bridge deck depth
- Self-weathering steel
- No middle abutment
- Transplanted willows around the bridge abutments
- At grade road reinforced with riprap
- Small 20 foot bridge verses culverts
- Easement for the state to access landlocked state lands from K.L. Spears property
- Increased taxes

Travel/Access

This project would involve an existing approach off of Highway 43. Overall, the Proposed Action would have minimal effects on highway operation and safety, as we are using an existing Montana Department of Transportation (MDOT) approved approach so there would be no site distance or location issues.

The Big Hole River is a navigable waterway and is explored every year by floaters and other recreationists. Travel on the river can start at Jackson Montana where the Big Hole River begins; as the outlet of Skinner Lake in the Beaverhead Mountains. The bridge clearance between the bottom of the bridge deck and the top of the water surface elevation has been designed for the 100-year storm event; however the recreationists who float the Big Hole River would normally be doing so at average flows. The average flow was calculated as the 10-year flow. The clearance issues associated with floating under the highway department bridge downstream near Melrose Montana will not be experienced at the LaMarche Creek Ranch Bridge.

Mitigation

- Additional reflectors will be installed at the approach to Highway 43.
- A new approach permit was applied for and was issued on October 20, 2008
- 5 foot clearance during the 100-year storm event
- 6.8 foot clearance during normal flows

3.3 Floodplains

A floodplain analysis has been prepared in the proposed project area around the Big Hole River by Anderson Engineering; this analysis is being reviewed by the floodplain administrators for both Beaverhead and Anaconda-Deer Lodge Counties and further analysis maybe necessary, exact numbers listed in this report are subject to change.

Cross sections were surveyed and then HEC-RAS modeling was used to determine the floodway and the floodplain. Water-Resources Investigations Report 03-4308 titled *Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998* written by Charles Parrett and D.R. Johnson was utilized for calculating the 100-year flows on the Big Hole River. The report provided many different regression equations that could be used to calculate flood flows. The regression equation for estimating flood frequency on gaged streams was chosen since there are gage stations on the Big Hole River at Wisdom (upstream) and at Melrose (downstream). The water report provided all the data for the gaged stations necessary to use the regression equation. The drainage area for the project location was determined using USGS quads.

The equation is as follows:

$$\log Q_{T,U} = \log Q_{T,G1} + \left[\left(\frac{\log Q_{T,G2} - \log Q_{T,G1}}{\log DA_{G2} - \log DA_{G1}} \right) \times \left(\log DA_{U} - \log DA_{G1} \right) \right]$$

Where

log is the base 10 logarithm,
$Q_{T,U}$ is the T-year flood at the ungaged site, in cubic feet per second,
$Q_{T,G1}$ is the T-year flood at the upstream gaged site, in cubic feet per second,
$Q_{T,G2}$ is the T-year flood at the downstream gaged site, in cubic feet per second,
DA_{G2} is the drainage area at the downstream gaged site, in square miles,
DA_{G1} is the drainage area at the upstream gaged site, square miles, and
DA_{U} is the drainage area, at the ungaged site, in square miles.

The 100-year flow at Wisdom is 9020 cfs and the 100-year flow at Melrose is 17200 cfs, according to the afore mentioned water report. As a result the 100-year flow calculated at the project location (ungaged site) is 12300 cfs. These numbers were compared to the numbers in the Big Hole River *Flood Plain Management Study,* prepared by the United States Department of Agriculture. According to the Big Hole River Study the 100-year flow at the end of the study area just upstream from Wise River, Montana is 12900 cfs. The LaMarche Creek Ranch Project site is upstream from the end of the Big Hole River Study and would be expected to have slightly lower flows.

The change in water surface elevation due to the bridge on the main channel of the river is 0.07 ft. Figures 3-3 and 3-4 show HEC-RAS cross sections of the main channel of the river before and after the construction, respectively, of the proposed single span bridge over the Big Hole River. The change in water surface elevation due to the bridge on the side channel is 0.43 ft. Figures 3-5 and 3-6 show HEC-RAS cross sections of the side channel before and after the construction, respectively, of the proposed 20 foot timber or concrete bridge.

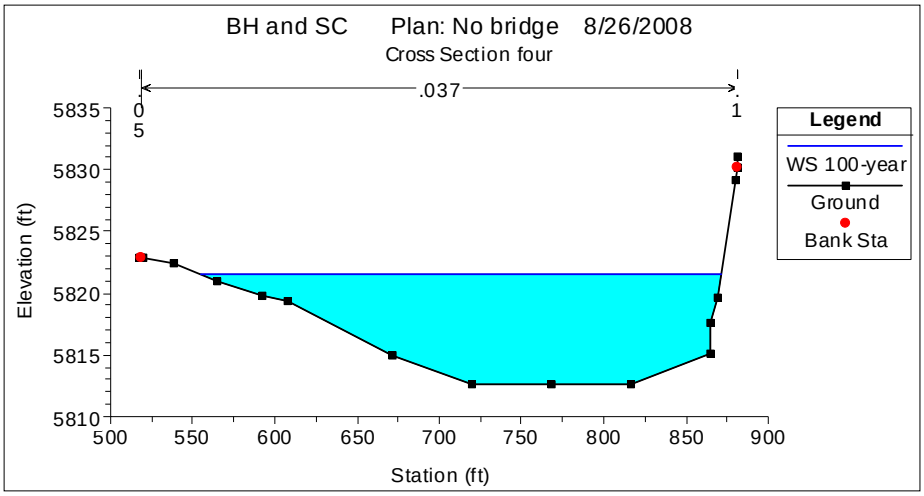


Figure 3-3 Big Hole River Cross Section Pre-Construction

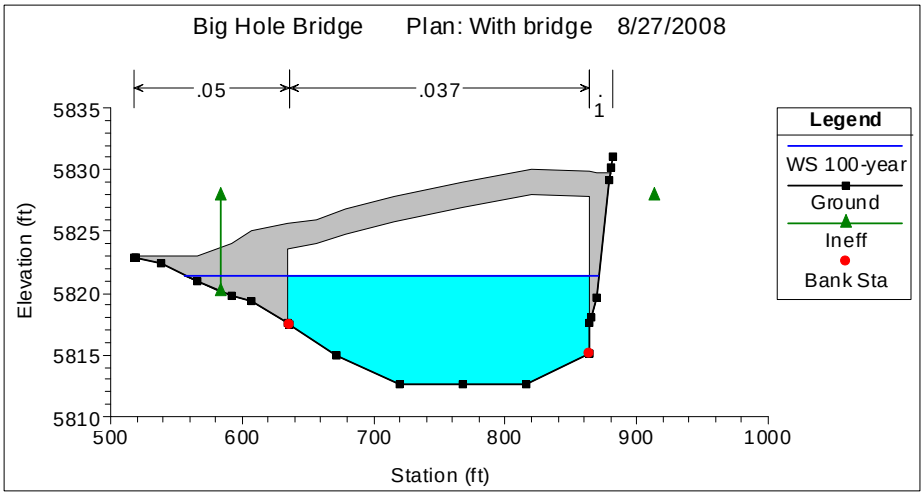


Figure 3-4 Big Hole River Cross Section Post-Construction

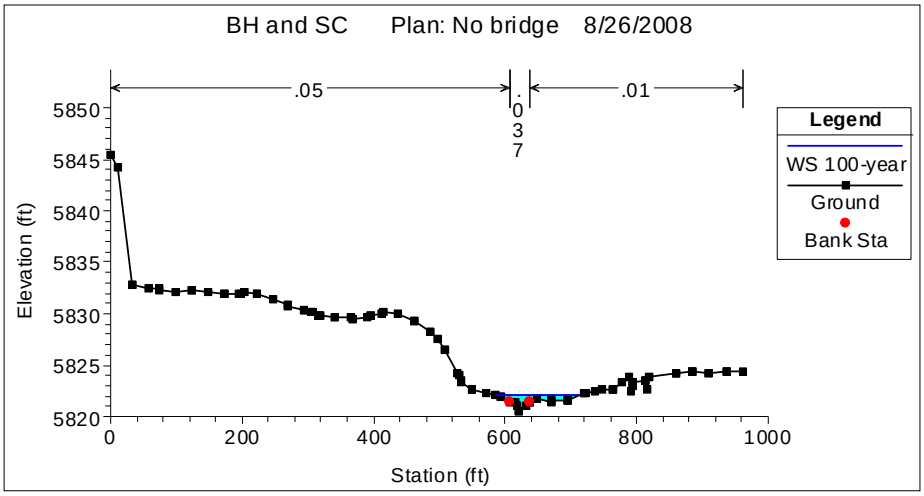


Figure 3-5 Side Channel Cross Section Pre-Construction

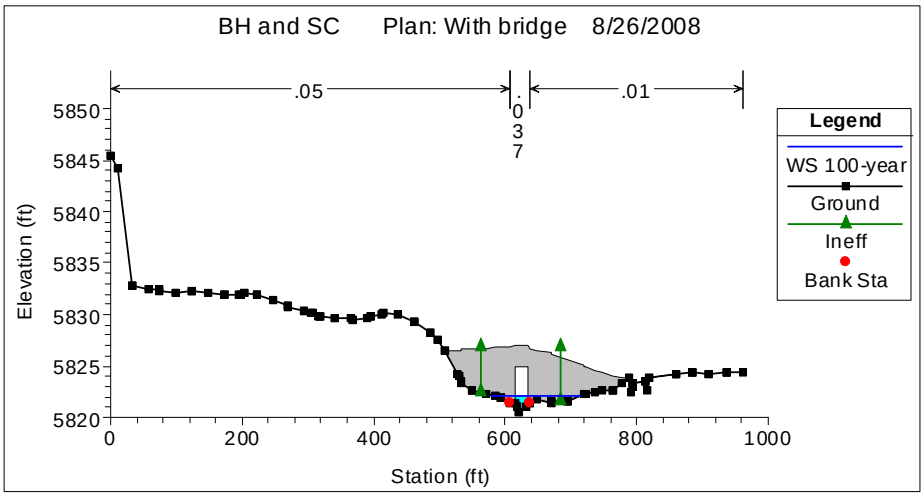


Figure 3-6 Side Channel Cross Section Post-Construction

The issue of ice jamming has been brought up by members of the local community and has also been modeled in HEC-RAS. Figures 3-7 and 3-8 illustrate the ice jamming event before and after the construction of the bridge, respectively. Real time data from the USGS website was used to model the flows for the ice jamming event. The gage site downstream at Melrose, Montana has been monitored since the winter of 1923 and the website provides a table with the monthly flow rates from then until now. Assuming the "winter" months are October thru April the highest recorded flow value is 3515 cfs in April of 1943. This value was used to model the ice jamming event even though Melrose is downstream of the proposed bridge location and has noticeably higher flows, to provide a conservative analysis.

As shown in Figures 3-7 and 3-8 the ice jam occurs naturally with or without the bridge due to a change in grade of the river bed. The ice and water will still be able to move across the floodplain as the road will be built at-grade and reinforced with riprap to allow water and ice to move over it during flooding and/or ice jam events without washing away the road material.

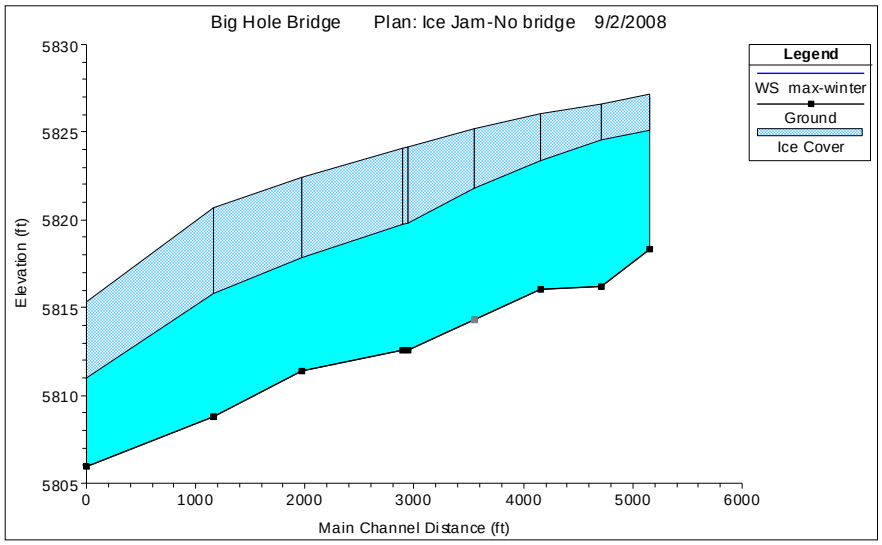


Figure 3-7 Big Hole River Ice Jam Profile Pre-Construction

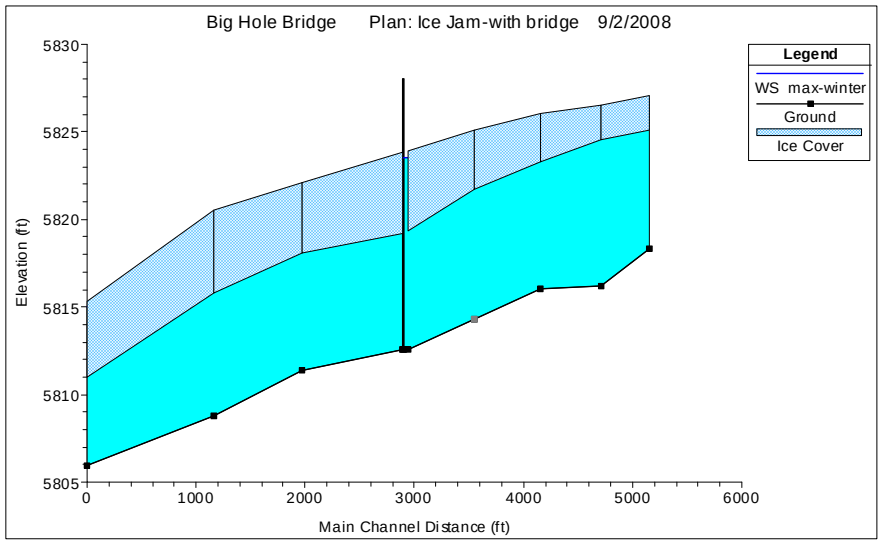


Figure 3-8 Big Hole River Ice Jam Profile Post-Construction

Mitigation

- Clear spanning the river from high water mark to high water mark
- Placing the bridge abutments outside of the ordinary high water marks
- Constructing a small 20 foot bridge verses a series of culverts over the side channel
- Road built at-grade with riprap reinforcement
- Floodplain permits from both counties affected by the bridge

3.4 Wetlands

Impacts to wetlands are regulated by the U.S. Army Corps of Engineers (COE) and the EPA. Under both the COE and the EPA regulations (33 CFR 328.3), the term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The proposed project area was delineated by Anderson Engineering and it was determined that 0.074 acres of wetlands would be affected. All wetland delineations were conducted following the Routine COE Method outlined in the 1987 manual. The Army Corps of Engineers does not require any mitigation when the affected wetlands amount to less than 1/10 of an acre.

Mitigation

- None required per the Nationwide 404 permit from the Army Corps of Engineers that was issued on July 25, 2008

3.5 Water Quality

The Montana Department of Environmental Quality (MDEQ) is required by Section 303(d) of the Clean Water Act to identify and prioritize those waters for which total maximum daily loads (TMDLs) are needed. These loads are an assessment of the amount of pollutant a water body can receive and not violate water quality standards. The TMDL determines how much "pollutant load" a lake or stream can assimilate. The Big Hole River is monitored by the state. The proposed bridge is located on the middle Big Hole.

According to the EPA the most current report available for this water body is 2006 and it states that: TMDL's are needed for copper and lead levels as well as for the water temperature on in the Big Hole River. However the Montana state has yet to provide the TMDL reports to the EPA.

In general, there would be an increase in the total surface area of gravel area from the new road and construction of the bridge under the Preferred Alternative. The construction of road surface area decreases the overall permeability of substrate and increases the rate and quantity of surface water runoff. Although minor, the increased surface water runoff and removal of vegetation has increased potential for erosion, transport of dissolved and particulate contaminants, and for sedimentation.

Mitigation

The following erosion and sediment control features will be used as necessary on site during construction and shall remain in place until final stabilization is complete. Details from the MDOT "Erosion and Sediment Control Best Management Practices" for some of the following controls are provided in Appendix B.

- Silt Fences
- Preservation of Existing Vegetation
- Temporary Seeding
- Erosion Seeding
- Periodic water sampling upstream and downstream of the project location
- The new bridge over the Big Hole River would be designed in coordination with appropriate resources and permitting agencies and a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and followed.

The Preferred Alternative would require field monitoring/oversight to minimize temporary impacts to the water quality due to construction. If material exceeding allowable limits did enter the Big Hole River during construction, it would be removed in coordination with state and federal water quality regulations.

3.6 Water Bodies, Wildlife Resources, and Habitat

Wildlife Resources

The proposed project area contains relatively high quality habitat for mammals, ungulates, birds, reptiles, and amphibians. During construction activity, more mobile species such as adult birds, elk, moose, large carnivores, and other mid-size to large mammals generally move to adjacent habitats to avoid direct mortality from construction activities. Temporary loss of nesting, foraging, and cover habitat may occur from temporary vegetation clearing for construction staging activities. Grass and forbs would begin to recover immediately and re-establish over subsequent growing seasons.

Temporary project impacts may be offset by the availability of additional habitat(s) present in the surrounding United States Forest Service lands, Bureau of Land Management lands, and State lands that contain the Beaverhead and Deer Lodge National Forests. These lands include riparian, wetland, and upland habitats.

Fisheries and Aquatic Resources

The Big Hole River is classified as "trout water" for its entire length by MFWP. According to the Montana Fisheries Information System (MFISH), on a scale of 1-6 with 1 being the best rating, the Big Hole River habitat was rated as 2 in the proposed bridge area.

From the Fishtrap Access Site, just upstream of the proposed bridge site, the Big Hole River enters the canyon stretch. No significant rapids are encountered and there are lots of riffle sections and a few stretches that have moderate sized waves. The Big Hole River is free flowing for its entire course and has been designated as a "Blue Ribbon" fishery. Table 3.1 lists fish species documented by MFISH in the proposed project area.

Table 3.1
Fish Species Documented in the Big Hole River near the Proposed Project Area

Scientific Name	Common Name	Abundance in project area	Native?
Thymallus arcticus montanus	Arctic Grayling	Common	Yes
Salvelinus fontinalis	Brook Trout	Rare	No
Salmo trutta	Brown Trout	Common	No
Oncorhynchus mykiss	Rainbow Trout	Abundant	No
Catostomus catostomus	Longnose Sucker	Common	Yes
Lota lota	Burbot	Common	Yes
Prosopium williamsoni	Mountain Whitefish	Abundant	Yes
Rhinichthys cataractae	Longnose Dace	Common	Yes
Cottus bairdii	Mottled Sculpin	Common	Yes
Catostomus platyrhynchus	Mountain Sucker	Rare	Yes
Catostomus commersonii	White Sucker	Common	Yes

No changes to instream habitat are anticipated with the Preferred Alternative given that the bridge will span the entire width of the river.

Mitigation

The proposed activities will comply with the MFWP, the MDEQ, and all other state or federal regulations for the prevention or abatement of erosion, water pollution, and siltation.

The following measures will be taken to prevent pollution and sedimentation of adjacent property, streams, rivers, wetlands or other surface waters:

- No chemicals, fuels, lubricants, bitumens, raw sewage, and other wastes will be allowed to enter state waters.
- No mechanical equipment will be operated in any stream or river.
- No material will be dumped or spilled from the equipment into the streams, rivers, or wetlands.
- No wash water from cleaning any concrete related equipment will be allowed to enter the streams, rivers, riparian areas, or wetlands.
- Sediment controls for drainage from topsoil stockpiles, staging areas and access roads will be provided.
- Streambanks will be reclaimed as close as possible to their pre-disturbed conditions.
- No water flow or fish passage will be restricted during construction.

In general State Standards and the Minimum Development Standards for private bridges (17.47.100) from Butte-Silver Bow Supplement No. 4,8-05 will be followed for bridge construction activities. Butte-Silver Bow County Ordinances will be used as neither Beaverhead nor Anaconda-Deer Lodge Counties have any ordinances in place in regard to private bridge construction.

These actions will assist in preventing or reducing many of the direct and indirect impacts described.

Species of Concern

Plant Species

(Lemhi Beardtounge)

Information found on the Montana Natural Heritage Program (MNHP) website indicated Lemhi Beardtounge (*Penstemon lemhiensis*) is a vegetative species of concern, which has been listed within the proposed project vicinity.

Lemhi Beardtoung's habitat as observed and described by the MNHP website consists of moderate to steep, east- to southwest-facing slopes, often on open soils. The Lemhi Beardtoung is a regional endemic that occurs only in southwest Montana and adjacent Idaho. The species is primarily sensitive to negative impacts associated with drought conditions and fire suppression. Additional impacts to populations are occurring from noxious weed invasion, primarily spotted knapweed in the Bitterroot region.

Direct impacts to Lemhi Beardtoung include the removal of plants during construction. Potential indirect impacts may result from the hydrologic alterations and the spread or introduction of noxious weeds. Many populations do however, grow partially or entirely on road banks.

Noxious weeds and invasive non-native species, particularly spotted knapweed, may be present in the vicinity of Lemhi Beardtoung. If these weedy species were left unmanaged (i.e., allowed to spread or increase their densities following construction) they may indirectly impact Lemhi Beardtoung through crowding, shading, or increased competition, making the habitat unsuitable. Impacts to Lemhi Beardtoung from direct removal, altered hydrology, and weeds due to the construction will not impact the viability of the species regionally, but may reduce the viability of the species locally.

Animal Species

Table 3.2 lists all sensitive species potentially found in the proposed project area.

Table 3.2
Sensitive Species with Potential to Occur near the Proposed Project Area

Scientific Name	Common Name	Status	Habitat
Myotis Thysanodes	Fringed Myotis	Sensitive (BLM)	Wide range of habitats including desert shrublands , sagebrush-grassland and woodland (Ponderosa pine forest , Oak and Douglas-fir)
Accipiter Gentilis	Northern Goshawk	Sensitive (BLM and USFS)	Mature large-tract conifer forests with a high canopy cover, relatively steep slope and little to sparse undergrowth
Strix Nebulosa	Great Gray Owl	Sensitive (BLM)	Dense coniferous and hardwood forest, pine, spruce, paper birch, poplar, and second-growth, especially near water
Euphydryas Gillettii	Gillett's Checkerspot	Sensitive	Open, moist conifer forests; moist meadows; stream sides
Gulo Gulo	Wolverine	Sensitive (BLM and USFS)	Mountain forests (primarily coniferous) in the western mountains, especially large wilderness areas
Martes Pennanti	Fisher	Sensitive (BLM and USFS)	Dense coniferous or mixed forests with dense overhead cover, large interconnected tracts

Fringed Myotis

The Fringed Myotis is listed by the BLM as a sensitive species. The Fringed Myotis is found primarily in desert shrub lands, sagebrush-grasslands, and woodland habitats. They have only been observed in Montana during June to September, which is a good indicator that they migrate out of state for the cold winter months. The Fringed Myotis is a highly mobile species and during construction activity they will generally move to adjacent habitats to avoid direct mortality from construction activities.

Northern Goshawk

The Northern Goshawk is listed as a sensitive species in all National Forests and on all the BLM lands in Montana. It is also a Forest Plan Management Indicator Species in the Beaverhead and Deer Lodge National Forest. The Northern Goshawk nests generally in mature large-tract conifer forests with a high canopy cover relatively steep slopes and little to sparse undergrowth. They would be expected to be inhabitants on the south side of the Big Hole River (Beaverhead County). This property backs up to United States Forest Service Lands. The Northern Goshawk will generally move to adjacent habitats to avoid direct mortality from construction activities.

Great Gray Owl

The Great Gray Owl is listed as a sensitive species by the BLM. The Great Gray Owl is the largest owl species in North America and lives in dense coniferous and hardwood forests usually near water. They would be expected to be inhabitants on the south side of the Big Hole River (Beaverhead County). The Great Gray Owl is a highly mobile species and during construction activity will generally move to adjacent habitats to avoid mortality from construction activities.

Gillette's Checkerspot

Euphydryas gillettii

The Gillette's Checkerspot is not currently managed by the BLM or the USFS. They are however ranked as a category G3 by the Nature Conservancy, which is defined as very rare or local throughout its range or found locally in a restricted range. Their habitat consists of open, moist conifer forests, moist meadows, and stream sides. The Gillette's Checkerspot will generally move to adjacent habitats to avoid direct mortality from construction activities.

Wolverine

The Wolverine is listed as a sensitive species by both the USFS and the BLM. They have a tendency to occupy higher elevations is summer lower elevations in winter within a large home range. Their Montana habitat consists generally of coniferous mountain forests and possibly riparian areas in the winter. The MFWP regulates trapping to one wolverine per person each season along with other requirements. The Wolverine will generally move to adjacent habitats to avoid direct mortality from construction activities.

Fisher

The Fisher is listed as a sensitive species by the USFS and the BLM. Fisher are smaller than wolverines and have a longer tail and a lower, longer overall appearance. Their habitat consists of dense coniferous or mixed forests with dense overhead cover. They have a large home range similar to their close relative the Wolverine. Fishers were extinct in Montana by the 1930's however reintroduction efforts over the last fifty years have resulted in the reestablishment of small populations. The MFWP restricts trapping of Fishers to 7 animals per year. The Fisher will generally move to adjacent habitats to avoid direct mortality from construction activities.

No direct, indirect or cumulative effects on any of the animal species of concern listed above are expected as a result of this proposed project.

Aquatic Species

Arctic Grayling

The Arctic Grayling, a species of concern, have been documented in the proposed project vicinity by the MFWP and the MNHP. The Arctic Grayling are listed as present and “common” by MFISH. The fluvial Arctic Grayling occurred throughout the upper Missouri Headwaters upstream of Great Falls at the time of Lewis and Clark’s voyage through Southwest Montana. The last remnants of this river-dwelling population exist only in a portion of the upper Big Hole River, with a range that represents approximately 5% of their historic range.

The upper Missouri River basin population once warranted a high priority for *Endangered Species Act* (ESA) listing by the United States Fish & Wildlife Service (FWS). In preparation for an ESA listing, the FWS began implementing a "Candidate Conservation Agreement with Assurances" (CCAA). This agreement would protect cooperating landowners from being prosecuted under the ESA "takings" clause so long as they fulfill specific obligations, spelled out in a contractual arrangement and intended to restore the dwindling population. Today approximately 30 landowners in the Big Hole River Basin have signed the CCAA, which comprises 130,000 acres of land, about one-third of the private land in the Upper Big Hole. Landowners are proceeding on a variety of projects to improve the Arctic Grayling’s habitat; such as willow planting to stabilize stream banks, fencing to keep cattle away from the banks, installing stock water wells that use less water and provide an alternate water source for cattle, and improving irrigation efficiency. The MFWP has also implemented catch and release regulation for the remaining population.

On 24 April 2007, the FWS removed Big Hole River Grayling from ESA candidacy based on arguments that (1) the rarer fluvial populations should not have been "lumped together" with the more common lake-dwelling populations and (2) the Montana Grayling populations are insignificant and their loss would be inconsequential given the presence of thriving populations in Alaska. As a result of the FWS removing the Arctic Grayling from the candidacy list; Dr. Pat Munday with the Center for Biological Diversity, Federation of Fly Fishers and Western Watersheds Project and George Wuerthner a former Montana fishing guide filed suit on November 15, 2007 to try and reverse the decision.

Direct impacts of the Preferred Alternative include potential short-term increases in fine sediment carried by the Big Hole River during construction of the bridge. No instream activities are included in the Preferred Alternative. No long-term impacts to fish passage are anticipated.

Mitigation

The LaMarche Creek Tributary flows through K.L. Spear's property before entering the Big Hole River. According to MFWP over the past 5 years the LaMarche Creek Tributary has had the highest abundance of Arctic Grayling for all the Big Hole River tributaries. The reason being that LaMarche Creek is much cooler, has an intact riparian community, good channel health and suitable in stream flows.

The previous landowners, in conjunction with MFWP, built wildlife friendly fencing to protect riparian vegetation and stream banks from livestock, developed a grazing plan and constructed 11 pools along the LaMarche Creek Tributary to enhance holding habitat for the Arctic Grayling. K.L. Spear has made generous donations to the Arctic Grayling Recovery Program and has been in contact with Jim Magee from the MFWP. K.L. Spear plans to continue the efforts initiated by the previous owners along the LaMarche Creek Tributary and along the Big Hole River in accordance with the CCAA. These efforts would include:

- Willow or native species planting on the Big Hole River.
- Fish screen and appropriate irrigation infrastructure to control flows on the lower ditch.
- Possible enhancement of the wetlands located on the north end of the property.

Noxious Weeds

From the Invaders database system created by the University of Montana in Missoula twelve category one weeds have the potential to occur near the proposed project area (Table3.3).

Table 3.3
Noxious Weeds with Potential to Occur Near the Proposed Project Area

Scientific Name	Common Name	Area Considered Noxious
Cirsium Arvense	Canada Thistle	State of Montana
Linaria Dalmatica	Dalmatian Toadflax	State of Montana
Centaurea Biebersteinii	Diffuse Knapweed	State of Montana
Convolvulus Arvensis	Field Bindweed	State of Montana
Cynoglossum Officinale	Houndstongue	State of Montana
Euphorbia Esula	Leafy Spurge	State of Montana
Leucanthemum Vulgare	Oxeye Daisy	State of Montana
Acroptilon Repens	Russian Knapweed	State of Montana
Centaurea Maculosa	Spotted Knapweed	State of Montana
Linaria Vulgaris	Yellow Toadflax	State of Montana
Potentilla Recta	Sulfur Cinquefoil	Beaverhead County
Tanacetum Vulgare	Common Tansy	Beaverhead County

The potential impact of noxious weeds is dependent on construction activities, the surrounding vegetation community type, and weed management. Construction activities have the potential to increase noxious weed infestation area and densities throughout the proposed project area. Soils brought in for construction may provide better habitat for weeds than native soil. Noxious weeds are opportunistic. Soil disturbance increases the risk for new invasive species and for spreading resident noxious weeds throughout the proposed project area. Construction of the roadway and bridges may affect noxious weed spread in the proposed project areas with effects varying by weed species.

Mitigation

- Efforts will be made to minimize ground disturbance through the design of steeper side slopes and construction staging areas.
- All construction equipment will be inspected prior to bringing them on site to insure that they are free of any dirt or weeds from previous job sites.
- Noxious weed plans will be filed with both Beaverhead and Deer Lodge Counties.
- Construction activities will comply with the Montana Noxious Weed Law, follow the requirements of the Noxious Weed Management Act, Title 7, Chapter 22, Part 21 MCA and comply with all county and contract noxious weed control requirements.

3.7 Threatened/Endangered (T/E) Species

The threatened and endangered species potentially affected by this project were identified through the MFWP website by county. The Deer Lodge and Beaverhead National Forests in the proposed project vicinity provide a suitable habitat for the Grizzly Bear (Ursus arctos horribilis), the Canadian Lynx (Lynx canadensis), the Gray Wolf (Canis lupus), Bald Eagle (Haliaeetus leucocephalus), and Ute Ladies Tresses (Spiranthes diluvialis). The list on the MFWP website however, has not been updated since April 2007. Further research concluded that the grizzly bear was removed from the threatened species list in April 2007, and the bald eagle was removed from the endangered species list in August 2007.

Canadian Lynx

The Canadian Lynx is a North American mammal that is a close relative of the Eurasion Lynx, but closely resembles the Bobcat. Their habitat consists mostly of subalpine forests typically staying within a home range of 100 miles. The Canadian Lynx population directly follows the snowshoe hair population as this is their primary source of food. The state of Montana does not currently allow any trapping of the Canadian Lynx; however poaching does occur. The Canadian Lynx population has declined due to habitat loss and because people trap them for their fur. The Canadian Lynx were listed as a threatened species under the Endangered Species Act as of March of 2000.

Gray Wolf

The Grey Wolf is mammal of the order Carnivora and shares a common ancestry with the domestic dog. The Gray Wolf lives in packs of 8 to 35 members with a dominant pack leader referred to as the alpha. They mate for life and usually only the alpha pair breeds. The Gray Wolf has a very large range and has lived in all habitats in the Northern Hemisphere except for tropical forests.

The Grey Wolf was one of the first species listed under the Endangered Species act in 1973. Reintroduction of the Gray Wolf to Idaho and Montana began in 1995 after years of controversy and litigation. Before reintroduction was approved by the courts a compromise was reached between ranchers and the proponents of wolf reintroduction regarding the threat to stock from wolf killings. The Defenders of Wildlife set up a "wolf compensation fund" that would use donated moneys to pay ranchers market value for any stock that is lost to wolf depredation.

These reintroduced populations have thrived and led to the decision to delist the Northern Rocky Mountain distinct population on March 28, 2008. The FWS has said that this distinct population of wolfs has exceeded its recovery goals and no longer needs the protection of the ESA. However on July 18, 2008 the U.S. Federal District Court in Missoula, Montana issued a preliminary injunction that immediately reinstated the ESA protections for the Northern Rocky Mountain distinct population. This injunction will remain in place until the case is finalized.

Determination of Effect

The Canadian Lynx and the Gray Wolf are expected to move to adjacent habitats to avoid direct mortality from construction activities. No direct, indirect or cumulative effects on either the Canadian Lynx or the Grey Wolf are expected as a result of this proposed project.

Ute Ladies Tresses

In January 1992, the Ute Ladies Tresses orchid was designated as threatened in its entire range by the FWS. The Ute Ladies Tresses orchid is a native perennial, terrestrial orchid characterized by whitish, stout, ringent flowers. The orchid occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. It typically occurs in stable wetlands and seepy areas associated with old landscape features within historical floodplains of major rivers. The Ute Ladies Tresses have been observed in southwestern Montana and the base of the eastern slope of the Rocky Mountains. Declines in Ute Ladies Tresses abundance and distribution has been caused by dams and diversions that interrupt stream flooding cycles, urbanization resulting in habitat loss, season-long grazing, recreational use of riparian habitats, and weed infestations. This species also has a very low reproductive rate which makes it even more vulnerable.

Determination of Effect

Direct impacts to Ute Ladies Tresses include the removal of plants during construction. Potential indirect impacts may result from the hydrologic alterations and the spread or introduction of noxious weeds. Noxious weeds and invasive non-native species, particularly spotted knapweed, may be present in the vicinity of the Ute Ladies Tresses. If these weedy species were left unmanaged (i.e., allowed to spread or increase their densities following construction) they may indirectly impact the Ute Ladies Tresses through crowding, shading, or increased competition, making the habitat unsuitable. Impacts to Ute Ladies Tresses from direct removal, altered hydrology, and weeds due to the construction will not impact the viability of the species regionally, but may reduce the viability of the species locally. However, the COE has mapped the occurrences of the Ute Ladies Tresses in Montana and has informed Anderson Engineering that it is highly unlikely that the Ute Ladies Tresses inhabit the project area.

3.8 Cultural/Archaeological/Historic Resources

A record search of the State Historic Preservation Office (SHPO) website found no cultural sites recorded in the immediate project vicinity. A letter was sent to SHPO on April 15, 2008 requesting confirmation of the aforementioned information. SHPO responded on April 16, 2008 and recommended that a cultural resource inventory be conducted since there are two previously recorded sites within the designated search local. Stephen Moore with Vigilante Electric Cooperative, Inc. in Dillon, Montana was hired and has performed a cultural resource inventory (SHPO Project #2008041604), the results are as follows:

"During the course of the inventory, no cultural resources were observed within the road right-of-way or the bridge sites (the State of Montana properties). A small group of rock piles were seen west of the bench road; however, the occurrence of rusty cans and non-ionized glass leads the investigator to believe these are fairly recent cow camps. Two chert flakes were observed in the NW ¼ NE ¼ section 35 while loading the boat used to access the south side of the river. They are well out of the project area.

Due to the negative amount of cultural material observed during the inventory and the minor surface disturbing activities proposed it is unlikely that any significant cultural resources will be encountered during construction of this project. The intensity of the survey leaves a low probability that any cultural resources within the project area were overlooked."

Mitigation

In the event that significant cultural resources are discovered during construction all construction activities will be stopped and SHPO will be notified. Construction activities and operations will not continue until further inspections/research is completed and reviewed by SHPO.

3.9 Visual

The Big Hole River is approximately 156 miles long and runs from Jackson, Montana to Twin Bridges, Montana where it joins the Beaverhead River to form the Jefferson River. According to local fly fishing blogs the most popular fishing is during the "Salmon fly" hatch in late May to June. Currently there are approximately 12 bridges on the Big Hole River. The Preferred Alternative would require a 220 foot bridge to be built over the Big Hole River. The bridge will clear span the river and have enough clearance to withstand a 100-year flood event. A very similar bridge to the proposed bridge built by Anderson Engineering and Sahale Bridge is shown in Figure 3-9.

Figure 3-9: Meriwether Bridge (Sahale Bridge and Anderson Engineering)

Two types of bridges were considered for this project; a through truss bridge and a cable stayed bridge. The through truss bridge is one of the oldest types of modern bridges and has a very simple design. However the substantial span length would require the through truss bridge to be built with 13 foot high trusses. Through truss bridges are also typically best used for straight alignments, which is not the case in this particular location. The elevation of the southern bank of the river is considerable higher than the northern bank. These elevation differences would require the bridge deck to be placed at the bottom of the 13 foot high "walls" of the truss bridge. The thick appearance of a through truss bridge can also serve as a distraction to passing drivers.

Cable stayed bridges on the other hand have a more contemporary design that is fairly complex. The cable stayed design offers more flexibility than the ridged through truss allows. The cables used for these types of bridges are very economical as they allow a slender and lighter structure, but yet are still able to span great distances. The modern yet simple appearance of the cable stayed bridge has made them very popular as attractive and distinct landmarks in recent times. Ultimately the cable stayed bridge was chosen for this project, a computer rendering of both styles of bridges is shown in Figures 3-10 and 3-11.

No long-term visual impacts from the bridge are anticipated. A passerby driving along Highway 43 would be able to see the bridge for approximately 1.5 minutes from the window of a moving vehicle. A recreationist floating down the Big Hole River would be able to see the bridge for approximately 15 minutes.

Figure 3-9: Cable Stayed Bridge

Figure 3-10: Through Truss Bridge

Mitigation

- Bridge built following the Butte-Silver Bow Bridge Ordinances, when applicable.
- Constructed of self-weathering steel that turns brown.
- Clear spanning the river, no middle abutment.
- 21 inch deep and 12 foot wide deck with two 40 foot towers.
- 6.8 foot clearance during average flows, 5 foot during 100-year flows.
- Willows will be transplanted around the bridge abutments and towers.
- Any development near the bridge will meet the Big Hole River Ordinances and go through the Beaverhead and/or Anaconda-Deer Lodge County Planning Departments.

3.10 Construction Impacts

During construction, surface water runoff could be contaminated by spills of petroleum products, lubricants, and hydraulic fluid from construction equipment. There is potential for short-term water quality impacts due to increased erosion and sedimentation during construction activities.

Mitigation

- The use of the BMP's listed in section 3.5 Water Quality and in the SWPPP
- The project's contractor would be subject to all state and local laws to minimize construction noise by having mufflers on all equipment.
- Dust control would also be implemented by using either water, or another approved dust-suppressant.
- There would be a spill prevention and emergency containment plan made to provide for mitigation of any impacts related to spills.
- All construction debris, refuse, etc. will be removed from the site and disposed of in an appropriate location/facility.
- In general State Standards for limiting construction impacts will be followed for bridge and road construction activities.

3.11 Cumulative Impacts

Many of the landowners along the Big Hole River have access to the other side by county/state bridges or by existing roads. Anderson Engineering completed a preliminary study of landownership along the Big Hole River to determine how many other potential private bridge could be proposed. The results showed that only two other property owners, the Kampenschroer's downstream and the Bacon Ray Ranch upstream, have similar situations. However, a precedent is not being set as no two circumstances are exactly the same.

Pete Kampenschroer recently submitted a proposal to the Butte-Silver Bow planning department for a bridge. However as of October 8, 2008, according to the Montana Standard newspaper, the planning department has denied the proposal.

3.12 Regulatory Requirements

The following permits, authorizations, and/or notifications under the Clean Water (33 U.S.C. 1251-1376, as amended) are required:

- 310 Permits from Beaverhead and Anaconda-Deer Lodge Conservation Districts
- Floodplain Permits from Beaverhead and Anaconda-Deer Lodge Counties
- Nationwide 404 Permit
- Navigable Rivers Land use License/Easement from the DNRC
- MDOT Approach Permit
- Anaconda-Deer Lodge Development Permit

Copies of the approved permits can be found in Appendix B.

3.13 Mitigation Summary

Land Use/ Right-of-Way and Easements/Utilities

An application for an easement in state lands has been submitted to the DNRC unit in Dillon. The DNRC has subsequently informed Anderson Engineering that the State will not move forward with the easement until all the necessary permits have been secured. These permits include:

- 310 Permit from the Beaverhead Conservation District
- 310 Permit from the Anaconda-Deer Lodge Conservation District
- Nationwide 404 Permit from the Army Corps of Engineers
- Big Hole River Conservation Development Permit from Anaconda-Deer Lodge County
- MDOT Approach Permit
- Floodplain Permit from Beaverhead County
- Floodplain Permit from Anaconda-Deer Lodge County

Social

- Bridge abutments outside of the ordinary high water mark
- 6.8 foot clearance between the bottom of the bridge deck and the water surface during normal flows
- Agreement that insures immediate removal of debris in the event of a bridge failure
- Block Management program
- 12 foot bridge deck width
- 21 inch bridge deck depth
- Self-weathering steel
- No middle abutment
- Transplanted willows around the bridge abutments
- At grade road reinforced with riprap
- Small 20 foot bridge verses culverts
- Easement for the state to access state land from KL Spears property
- Increased taxes

Travel/Access

- Additional reflectors will be installed at the approach to Highway 43.
- A new approach permit was applied for and was issued on October 20, 2008
- 5 foot clearance during the 100-year storm event
- 6.8 foot clearance during normal flows

Floodplains

- Clear spanning the river from high water mark to high water mark
- Placing the bridge abutments outside of the ordinary high water marks
- Constructing a small 20 foot bridge verses a series of culverts over the side channel
- Road built at-grade with riprap reinforcement
- Floodplain permits from both counties affected by the bridge

Wetlands

- None required per the Nationwide Clean Water ACT 404 permit from the Army Corps of Engineers that was issued on July 25, 2008

Water Quality

The following erosion and sediment control features will be used as necessary on site during construction and shall remain in place until final stabilization is complete. Details from the MDOT "Erosion and Sediment Control Best Management Practices" for the following controls are provided in Appendix B.

- Silt Fences
- Preservation of Existing Vegetation
- Temporary Seeding
- Erosion Seeding
- Periodic water sampling upstream and downstream of the project location
- The new bridge over the Big Hole River would be designed in coordination with appropriate resources and permitting agencies and a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and followed.

The Preferred Alternative would require field monitoring/oversight to minimize temporary impacts to the water quality due to construction. If material exceeding allowable limits did enter the Big Hole River during construction, it would be removed in coordination with state and federal water quality regulations.

Water Bodies, Wildlife Resources, Habitat

The proposed activities will comply with the Department of Fish, Wildlife and Parks, the Department of Environmental Quality, and all other state or federal regulations for preventing or abatement of erosion, water pollution, and siltation.

The following measures will be taken to prevent pollution and sedimentation of adjacent property, streams, rivers, wetlands or other surface waters:

- No chemicals, fuels, lubricants, bitumens, raw sewage, and other wastes will be allowed to enter state waters.
- No mechanical equipment will be operated in any stream or river.
- No material will be dumped or spilled from the equipment into the streams, rivers, or wetlands.
- No wash water from cleaning any concrete related equipment will be allowed to enter the streams, rivers, riparian areas, or wetlands.
- Sediment controls for drainage from topsoil stockpiles, staging areas and access roads will be provided.
- Streambanks will be reclaimed as close as possible to their pre-disturbed conditions.
- No water flow or fish passage will be restricted during construction.

In general State Standards and the Minimum Development Standards for private bridges (17.47.100) from Butte-Silver Bow Supplement No. 4,8-05 will be followed for bridge construction activities. Butte-Silver Bow County Ordinances will be used due to the fact that neither Beaverhead nor Deer Lodge Counties have any ordinances in place in regard to private bridge construction.

These actions will assist in preventing or reducing many of the direct and indirect impacts described.

Threatened/Endangered (T/E) Species

The LaMarche Creek Tributary flows through K.L. Spear's property before entering the Big Hole River. According to MFWP over the past 5 years the LaMarche Creek Tributary has had the highest abundance of Arctic Grayling for all the Big Hole River tributaries. The reason being that LaMarche Creek is much cooler, has an intact riparian community, good channel health and suitable in stream flows.

The previous landowners, in conjunction with MFWP, built wildlife friendly fencing to protect riparian vegetation and stream banks from livestock, developed a grazing plan and constructed 11 pools along the LaMarche Creek Tributary to enhance holding habitat for the Arctic Grayling. K.L. Spear has made generous donations to the Arctic Grayling Recovery Program and has been in contact with Jim Magee from the MFWP. K.L. Spear plans to continue the efforts initiated by the previous owners along the LaMarche Creek Tributary and along the Big Hole River in accordance with the CCAA. These efforts would include:

- Willow or native species planting on the Big Hole River.
- Fish screen and appropriate irrigation infrastructure to control flows on the lower ditch.
- Possible enhancement of the wetlands located on the north end of the property.

The Canadian Lynx and the Gray Wolf are expected to move to adjacent habitats to avoid direct mortality from construction activities. No direct, indirect or cumulative effects on any of the Canadian Lynx or the Grey Wolf are expected as a result of this proposed project.

Direct impacts to Ute Ladies Tresses include the removal of plants during construction. Potential indirect impacts may result for the hydrologic alterations and the spread or introduction of noxious weeds. Noxious weeds and invasive non-native species, particularly spotted knapweed, may be present in the vicinity of Ute Ladies Tresses. If these weedy species were left unmanaged (i.e., allowed to spread or increase their densities following construction) they may indirectly impact Ute Ladies Tresses through crowding, shading, or increased competition, making the habitat unsuitable. Impacts to Ute Ladies Tresses from direct removal, altered hydrology, and weeds due to the construction will not impact the viability of the species regionally, but may reduce the viability of the species locally. However, the Army Corps of Engineers has mapped the occurrences of the Ute Ladies Tresses in Montana and has informed Anderson Engineering that it is highly unlikely that the Ute Ladies Tresses inhabit the project area.

Cultural/Archaeological/Historic Resources

In the event that significant cultural resources are discovered during construction all construction activities will be stopped and SHPO will be notified. Construction activities and operations will not continue until further inspections/research is completed and reviewed by SHPO.

Visual

- Bridge built following the Butte-Silver Bow Bridge Ordinances.
- Constructed of self-weathering steel that turns brown.
- Clear spanning the river, no middle abutment.
- 21 inch deep and 12 foot wide deck with two 40 foot towers.
- 6.8 foot clearance during average flows, 5 foot during 100-year flows.
- Willows will be transplanted around the bridge abutments and towers.
- Any development near the bridge will meet the Big Hole River Ordinances and go through the Beaverhead County Planning Department.

Construction Impacts

- The use of BMP's listed in section 3.5 Water Quality and the SWPPP
- The project's contractor would be subject to all state and local laws to minimize construction noise by having mufflers on all equipment.
- Dust control would also be implemented by using either water, or another approved dust-suppressant.
- There would be a spill prevention and emergency containment plan made to provide for mitigation of any impacts related to spills.
- All construction debris, refuse, etc. will be removed from the site and disposed of in an appropriate location/facility.
- In general State Standards for limiting construction impacts will be followed for bridge and road construction activities.

COMMENT LETTERS

4.0 COMMENT LETTERS

4.1 Wayne Hadley-Mad Dog Hunters and Anglers

From: Wayne Hadley <whadley@wildblue.net>
Subject: **Big Hole Bridge Proposal**
Date: May 22, 2008 8:58:09 AM MDT
To: LF and Floss Thomas and Corcoran <lfandfl@msn.com>

Tim Egan
DNRC
730 North Montana Street
Dillon MT 59725

Tim - the Anaconda Club is opposed.

Dear Mr. Egan:

~~We have received your letter dated 15 May regarding a proposal by KL and Jane Spear for an easement for~~ a bridge spanning the Big Hole River. It is unclear whether this message should be construed as a scoping message since it states that comments are sought under MEPA. Since no MEPA document seems available, we are assuming that this is a scoping notice and will respond in that fashion.

In general, we would not object in principle to the construction of a cable [redacted] bridge over the Big Hole River but feel such an endeavor should be subject to stringent conditons owing the the potential impacts to public recreation and safety.

Among these concerns are:

1. Sufficient set backs on both banks to allow normal high flows to pass without injury to the support structure. Perhaps the 20 or 50 year floodplains would be appropriate boundaries.

2. Adequate height so that the structure would pose no barrier to passage by wading or floating recreationists at the highest reasonably anticipated flows.

3. Some binding agreement to insure that in the case of bridge failure the applicants would be responsible for the immediate removal of debris to protect public safety.

4. Construction in such a manner as to present the least obtrusive appearance on the viewscape.

When a complete MEPA document is available for public comment, we wish to receive it at the earliest possible moment. Further, given the potentially contentious nature of this proposal, we look forward to a rigorous and thorough review document from DNRC and a broad spectrum of distribution to all potentially affected or interested parties.

Thank you for the opportunity to comment on this proposal.

Sincerely,

Mad Dog Hunters and Anglers

Wayne Hadley, Retire Fisheries biologist.

4.2 Tony Schooner-Skyline and Anaconda Sportsmen's Clubs

JUN - 3 RECD

Public Lands/Water Access Association, Inc.

Post Office Box 2 ■ Ramsay, Montana 59748-0002 ■ Email: plaai@imt.net ■ 406-782-1560

Tim Egan, DNRC 2 June 2008

Our groups, Skyline, Anaconda Sportsmens Clubs, appreciate the opportunity to comment on the scoping for a cable stay bridge across the Big Hole River. We are opposed to this for the following reasons

1. A precedent is being authorized while long time landowners along the river have been accessing their properties without bridges.
2. The proposed bridge crosses public lands and public waters.
3. Destroys the aesthetic values of our public lands and water for all recreational users, floaters, fisherman&hunters
4. Roads will appear in an area which in the past offers public wildlife a safe habitat and escape cover.
5. The public will be shortchanged because of this eyesore and recreational opportunities will be decreased.
6. Conservation easements are paid for with public tax dollars and in this case - no significant benifits for the public will happen

over

7. There is no monitoring of conservation easements where habitat protection and public benefits are listed as a top priority.
8. The private parties involved will be the sole beneficiaries of public lands surrounding their isolated parcel.
9. Unfortunately, big money creates power and influence over our public agencies in this particular type of decision. Litigation (lengthy) usually deters sound rezoning.
10. I'm enclosing a copy of the Butte-Silver Bow bridge policy which outlines some of the very important concerns that our groups are trying to express.

Your consideration of all our concerns will be greatly appreciated.

Sincerely,
Tony Schoonen
Director

P.S. We would like to be a party to the final E.A. process.

4.3 Craig Fager-MFWP

Montana Fish, Wildlife & Parks

730 North Montana
Dillon, MT 59725

July 7, 2008

Montana DNRC
Attention: Tim Egan
730 North Montana
Dillon, MT 59725

Dear Tim:

This letter is in reference to the LaMarche Creek Ranch Environmental Assessment (EA). I have reviewed the document and provide the following comments relative to the wildlife values in the area, the EA and the general issue scoping you requested.

The LaMarche Creek Ranch provides seasonal habitat for elk, mule deer and moose. Moose are the only year-round resident big game animals as snow depth forces other species to winter range at lower elevations in the Big Hole and other watersheds. A limited number of antelope may migrate through the north side of the property. Small numbers of white-tailed deer may be observed in the summer months in both LaMarche Creek and the Big Hole.

The gray wolf, black bear and mountain lion are common species in the Big Hole and all three species would be expected to use or travel through the LaMarche Creek Ranch. Mink, pine marten, river otter, muskrat and beaver are fairly common furbearing species in the area. Wolverine may be occasional, transient visitors to the property. Coyote and fox are common predatory species. At this time there are no known grizzly bears in the West Pioneers but this species is expected to occupy this range in the coming decades. FWP is currently evaluating several reported grizzly bear sightings in the Pioneers with remote cameras and will advise you if we confirm the presence of one or more grizzly bears.

The upper Big Hole River and tributaries produce numerous species of waterfowl, game and migratory birds. Mallard, teal, widgeon, gadwall and Canadian geese are the most common waterfowl species. Numerous sandhill cranes nest in the Big Hole Valley. Bald eagles are common in the river corridor along with numerous other species of hawk and falcon. Three species of grouse-ruffed, spruce and blue- can be found in the upland habitats in the Big Hole.

From a wildlife perspective we view EA alternatives A and D as being completely impractical and agree that they should be rejected from further consideration. Both of

these alternatives would fragment wildlife habitat along long corridors with virtually no public benefit.

The preferred alternative (alternative C) produces few direct impacts to wildlife or their habitat. The greatest threat to wildlife and their habitat is the development the bridge could support and that is well beyond the scope of the EA. We can reasonably project waterfowl hunters accustomed to floating through this stretch of the Big Hole will have to be more cautious around the bridge and development sites. There is also some potential of increased avian mortality from collisions with the bridge support wires. The exact risk of such mortality is beyond my expertise to determine.

The proposed bridge provides no public access benefit, making the project a much larger social issue centered around the existing character of the Big Hole River. The issue of administrative and management access was brought forward as a public benefit of the bridge. I see very little public benefit to administrative access and question what could be accomplished in terms of management without substantial new roads or trails on the south side of the river. FWP would oppose any permanent roads or trails on public lands accessed via the proposed bridge as they would be exclusive in use to whoever controls the bridge.

Thank you for the opportunity to comment on this project. I would ask that you please keep me informed of developments on this project. I will plan on attending the meeting scheduled for July 25, 2008.

Sincerely,

Craig Fager
Wildlife Biologist

C: Jim Olsen

4.4 Jim Olsen-MFWP

Montana Fish, Wildlife & Parks

Montana FWP
1820 Meadowlark Ln.
Butte, MT 59701

June 13, 2008

Deer Lodge Conservation District
Beaverhead Conservation District
Mile High Conservation District
DNRC

Dear all interested parties:

This letter will serve as both my comments to the DNRC regarding the proposal to construct a bridge over the Big Hole River downstream of Lamarche Creek and my team member comments for the 310 applications for the appropriate Conservation Districts. After a review of the application and an on-site inspection of the proposed crossing, I am very concerned about the potential impacts of a bridge across the river at this location. While the bridge does span the high water mark, there is still, in my opinion, significant risk of substantially altering the hydrology of the river at this location, which may cause impacts to the fisheries habitat and potentially increased erosion. My main concern is with the potential of ice jams at the location and the impacts ice jams may have as a result of blocking significant portions of the floodplain with road fill and bridge abutments where flood and ice flows would likely move through. This area of the river is very prone to ice scour and ice jams. Notably, this spring when the ice began to move a jam formed approximately 2-3 miles downstream of the proposed bridge site. The river was dammed off completely by ice and the water and ice flows spread across the floodplain. Grass from river flows was deposited as high as the top wire on barbed wire fences along the highway. However, because the river had an undisturbed floodplain at this location, there was very little damage to the bed and banks of the channel and the natural hydrology of the area where the jam occurred was unchanged. The only damage noted was the scarring of willows along the riverbank. In contrast, constructing a bridge and blocking off or filling floodplain areas where traditional ice and flood flows have occurred could substantially increases the potential for flooding, erosion and alteration of the natural state of the river channel. The formation of ice jams and ice flows are unpredictable as are their impacts. Because of this unpredictability and the propensity of this area to form ice jams, I feel strongly that this project has a strong potential to significantly increase the risk of erosion and hydrological changes in the event of an ice jam at the bridge crossing. Such impacts could negatively impact the fishery of the Big Hole River, particularly for artic grayling.

I also do not feel that the EA provided enough information to eliminate Alternatives A and D. These two alternatives provide access through existing and constructed road to Spears private land on the south side of the river. The EA states that Alternatives A and D have "large

environmental footprints" and provide a road profile and table of disturbance (linear feet and cubic yards). However, the EA does not define "footprint". There is no discussion on the effects on fish, wildlife, vegetation soils etc., or on the positive or negative aspects for potential access for the public and land managers. There is also no discussion of whether these alternatives were discussed with the private landowners or the managing agencies. I do not feel that enough information was provided in the EA that would eliminate these two alternatives and conclude that Alternative C (the Bridge) is the preferred alternative.

The Big Hole River, particularly through the upper reaches where the bridge is proposed, is very pristine. There are very few places like the Big Hole valley left in Montana or in the lower 48 states where traditional practices have been maintained and the landscape is very similar to what it looked like 100 years ago. While my duty as a Fisheries Biologist is to review the project based upon its potential impacts to the river, its habitat and fisheries, I also feel it is appropriate to represent the recreationists who frequent the Big Hole River for fishing and other forms of recreation. It was very clear from our meeting on site that sportsmen and recreationists are very much against the construction of the bridge because of its impacts on the visual quality of the river corridor and for other potential recreational related reasons. I am aware of fishermen who fish this particular reach of river, not because the fishing is better than any other reach of the river, but because the river is so pristine and natural. While it is duly noted that new developments have been made up and down the Big Hole River, actions by local governments, aided by locally based conservation and sportsmen's groups have pushed for laws and ordinances to reduce development impacts on the aesthetic quality of the river corridor and other related impacts. Because of the size, location and extent of the bridge, I feel this bridge will take away from the natural beauty of the river and will reduce the quality of experience for recreational users of the river.

Given the potential unpredictable impacts to the hydrology of the river, particularly related to ice, and the subsequent affects on fisheries habitat, it is my recommendation to the Conservation District Boards that the 310 permit for constructing a bridge be denied. I would recommend the landowner consider other alternatives to accessing his property on the south side of the river than a bridge at this particular location. Please feel free to contact me with any questions (533-8451).

Sincerely,

Jim Olsen
Regional Fisheries Biologist
Big Hole River

C: Bruce Rich, FWP
Vanna Boccadori, FWP
George Grant Trout Unlimited
Anaconda Sportsmen
Big Hole Watershed Committee

4.5 Darren Olsen-USFS

Marlene Gallwitz

From: Darren G Olsen [dgolsen@fs.fed.us]
Sent: Friday, July 18, 2008 5:05 PM
To: Marlene Gallwitz
Cc: Kevin Greenwood
Subject: Re: LaMarche Creek Ranch Bridge Meeting

I will not be able to make this meeting, but I am sending a representative from our Forest office who works with Special Uses and road issues. His name is Kevin Greenwood.

The Forest Service would not support a road going across the Forest Service to access the private land in this area. I do not have all the specifics of the project, but we do not support the proposal of building new road across National Forest lands, when there is closer access from adjacent private lands.

Darren G. Olsen
District Ranger
Wise River Ranger District
Beaverhead-Deerlodge N.F.
(406) 832-3178
dgolsen@fs.fed.us

"Marlene Gallwitz" <marlene@andersonmontana.com>
07/01/2008 04:29 PM

To: <susie.johnson@mt.nacdnet.net>, "'Blank, Deborah L NWO'" <Deborah.L.Blank@usace.army.mil>, <danette.watson@mt.nacdnet.net>, "'Larry Laknar'" <llaknar@co.beaverhead.mt.us>, <tegan@mt.gov>, "'Beck, Jim'" <jibeck@mt.gov>, <cfaggan@mt.gov>, <dgolsen@fs.fed.us>
cc:
Subject: LaMarche Creek Ranch Bridge Meeting

Hello Everyone

I have attached a meeting notice with itinerary for the 25th of July and some general directions to the site. I will also be sending copies to everyone in the mail. Please give Bill or me a call at 585-1484 with any questions. Thank you

Marlene Gallwitz, E.I.T.
Anderson Engineering, Inc.
2417 West Main Street, Suite 1
Bozeman, MT 59718
Office: 406-585-1484
Fax: 406-585-1485

1

4.6 Jerry Wells

Mr. Tim Egan
Unit Manager
Montana Department of Natural Resources
730 North Montana
Dillon, Mt. 59725

June 12, 2008

Dear Mr. Egan,

I am writing to you regarding the proposed private bridges over the Big Hole River in the vicinity of LaMarche Creek. I located an electronic version of an Environmental Assessment (EA) written by Anderson Engineering, who proposes to build the bridges, regarding this proposal and would like to comment on that document as well as other issues regarding the proposal. I noticed a few things right off the bat that seemed unusual with the EA.

1. The first thing that I noticed was that this document was not called a "Draft" EA but rather an EA. I am no expert on the Montana Policy Act (MEPA) but my experience would lead me to believe that an EA written for a government action, which in this case would be a lease to the applicant by the Montana Department of Natural Resources and Conservation (MDNRC) under their ownership of the bottom of the streambed would be released as a draft for public comment.
2. The second thing I noticed was that there was no mention of public scoping to determine the issues involved with the proposal. This also seems to be outside of the typical MEPA process for Montana government actions, particularly those likely to be controversial. This is particularly true for actions that may impact the Big Hole River, a wild trout river of international renown. A public scoping process for actions such as are proposed should be extensive and take the necessary time to identify issues that need to be addressed.
3. The third thing that I noticed was that there was no mention of a public comment process in the EA or of a comment period to provide comments. I called the engineering firm and they told me that public comments were being taken until June 16, although I don't know how people were supposed to know that.

In terms of issues related to the proposal, I would first like to address what appear to be significant issues with the location and construction of the proposed bridges. This area of the river is prone to significant ice formation and movement in cold winters. I was the MFWP fisheries biologist for the Big Hole River in the winter of 1978-79 and recall major ice jams in the vicinity. During these events, channel constrictions

such as bridge abutments cause ice to back up and water and ice to move laterally.

.

The smaller concrete bridge is listed as only 20 feet long but it is my understanding that there will also be a significant amount of filling of the floodplain necessary to reach this bridge. This floodplain filling will exacerbate icing problems in cold winters by reducing the channel width for ice related flows. It could also reduce the river capacity to handle high flows in the spring runoff period.

The EA has hardly a word about visual impacts associated with this proposal. This is a serious deficiency. To the thousands of recreationists that experience the Big Hole River every year either from a watercraft, from the highway or on foot, the view shed is a significant part of their experience. The impact of the proposed bridges to the quality of the river experience is significant and cannot be mitigated by painting them natural colors as proposed in the EA.

Finally, it does not appear to be in the interest of the state of Montana to authorize the construction of two bridges across the Big Hole River to build one house. Why should the interest and well being of the many be ignored for that of one person who knowingly bought land that had no physical access? This would seem to be very bad public policy.

Thank you for the opportunity to comment and I would like to be kept informed on this proposal.

Sincerely,

Jerry Wells
619 1st St
Helena, Mt. 59601

cc. Mary Sexton
Jeff Hagener

4.7 Jack Jones

JUN

3014 Irene Street
Butte, MT. 59701
June 3,2008

Department of Natural Resources & Conservation
Attn: Mr. Tim Egan, Dillon Unit Office
730 North Montana Street
Dillon, MT. 59725-9424

Re: Easement for private bridge proposal across the Bighole River; Sec.35, NW1/4 SW1/4,T.2N.R.13W.

Dear Tim:

Thank you for providing the opportunity to comment on this proposal.

The Bighole River is a nationally famous blue ribbon wild trout stream. The river is famous for it's beauty and public value and provides many days of recreational use. The area is also known of the esthetical quality and fishermen, hunters and the general public appreciates these qualities. We have had proposals before for bridges across this beautiful stream to benefit the chosen few. The area is being subject to real estate and over-development now. Water is in short supply and many issues have surfaced on the management of the Bighole ecosystem.

We do however have public lands in the area and I wish we had more. The streambed is public state lands and we have other public state lands, BLM and National Forest in the area.

Wealthy newcomers would like now to construct bridges across the Bighole for their own personal use. Any proposal to construct new bridges across the Bighole River must be met with strong public opposition. By allowing this easement and others all landowners then would want their bridge to their little piece of Montana heaven. I oppose this easement and it should not be granted. The public streambed gives us leverage to deny screwing up the Bighole River. We have the Montana Stream Access Law as well.

Deny this easement and it will send the message to others along the Bighole River who want their private bridge to their retreat. Even if public access were allowed which it isn't here it's a bad idea. Please look at all those state sections along the Bighole and determine how more public access can be achieved on our land. The state land near Jerry Bridge has always bothered me. The land seems to be abused and some of the roads to BLM has been closed.

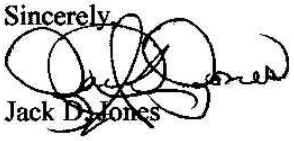
For your information and as the wildlife biologist for the BLM I was able to develop the fishing access sites and boat rams at the Jerry Creek site, the East Bank site and the Divide site. It was wildlife Sikes Act cooperative fund and efforts with T.U., Anaconda

Sportsmen and Skyline Sportsmen. The cooperative signs are there. If that hadn't been done there would probably be houses setting there now. Also the state section at Divide below the Humbug spires I got opened to the public and the switchback road west of the Divide bridge constructed by the Anaconda Job Corps for public land access there. I can't see much has been done by BLM and DNRC for public land access since I retired.

It's time now these agencies get serious about public land access. Deny this easement and any others for private bridges we don't need them and we don't want them.

Thank you for considering my comments.

Sincerely,



Jack D. Jones

P.S. I am very concerned about the sale of all these parcels of public state land. More state land has been sold then in the history of public state lands in Montana. There was a lot of talk about purchasing land for the public benefit with some of the money and nothing has been purchased that will benefit the public. We all can see why government can't be trusted these days. Why not purchase land along the Bighole River? Sell no more state land in Montana we need a moratorium on public state land sales and protect our public stream beds.

Enc:(2)
Cc: Jack Atcheson, State Land Coalition
Tony Schoonen, PLAAI
Anaconda Sportsmen's Club
Skyline Sportsmen's Association
T.U.
Concerned sportsmen
Governors Office

4.8 Jack Atcheson

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
DILLON UNIT OFFICE

BRIAN SCHWEITZER, GOVERNOR

STATE OF MONTANA

(406) 683-6305
FAX: (406) 683-4041

730 NORTH MONTANA STREET
DILLON, MONTANA 59725-9424

SORRY FOR FAX
I FORGOT TO MAIL THIS

Jack Atcheson
MT Coalition for Appropriate Management of State land
3210 Ottawa
Butte, MT 59701

NO!

May 15, 2008

ALSO SEE
JACK JONES LETTER
FOR SKYLINE AND
ANACONA
CLUB

Dear Jack,

The DNRC Dillon Unit has received a request from KL Spear and Jane Spear for a right of way easement for crossing Trust Lands (a navigable section of the Big Hole River) in Beaverhead and Deer Lodge Counties in the NW1/4 of the SW1/4 of Section 35 T2N – Range 13W, P.M. M. with a bridge. The proposal would construct a 220 foot cable stay bridge that would span the river from high water mark to high water mark.

SEE RAVALLI CO ⓥ OSL AND MS. COURT DECISIONS

We are currently conducting an analysis under the Montana Environmental Policy Act, of the impacts that may occur as a result of the proposed bridge crossing. FEDERAL LAW IS SUPREME SEE TAYLOR GRAZING ACT(TG) AND UNLAWFUL ENC ACT 1988

By this letter, DNRC is requesting comments under the Montana Environmental Policy Act regarding a possible easement for the construction of a bridge over the Big Hole River. Comments will be considered if received no later than June 16, 2008 and may be sent to:

Tim Egan
DNRC
730 N Montana St
Dillon, MT 59725
Or e-mail me at tegan@mt.gov

IF YOU ALLOW ONE, THEN WHY NOT ANOTHER, THEN ANOTHER! IT IS NOT A PUBLIC BENEFIT.

If you have further questions you may call me at 406-683-6305.

OR HOW ABOUT FLYING INTO ISOLATED SECTIONS OF PUBLIC STATE LAND.

Sincerely,

Tim Egan

Jack Atcheson
June 13, 08
FOR COALITION

HOW ABOUT BUILDING A CABLE OR BRIDGE OVER PRIVATE LAND TO REACH OTHER PUBLIC LAND,

OR A LANDER AT SECTION CORNERS.

06/16/2008 13:18 4067233318 ATCHESON & SONS INC PAGE 01/03

N ↑

⊗ Bridge Location

NO

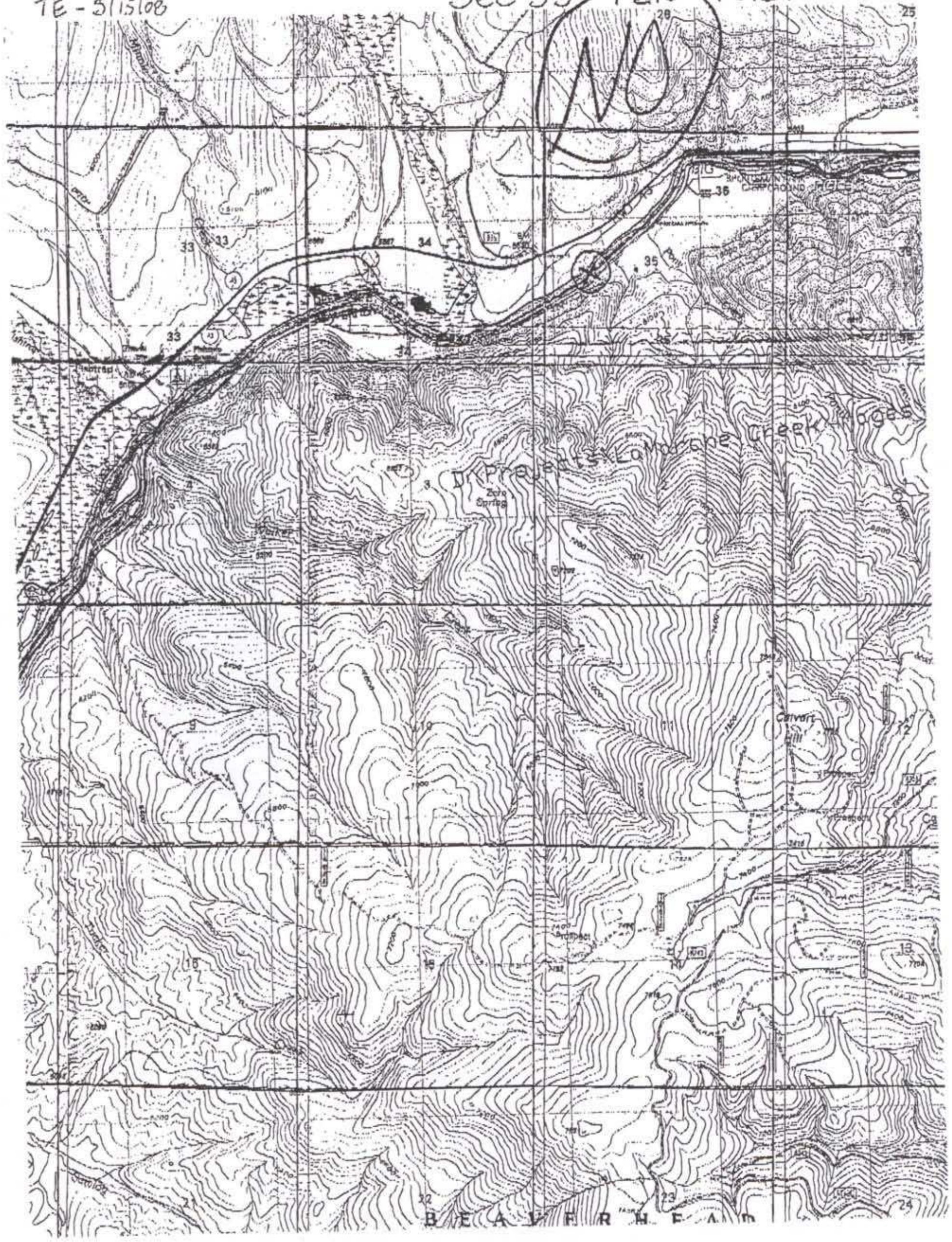
1" = 3000'

TE - 5/15/08

Sec 35 T2N R13W

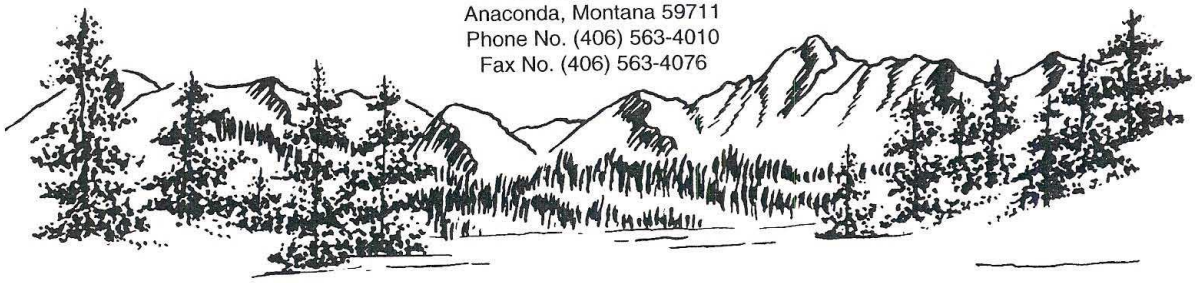
NO

NO



4.9 Anaconda-Deer Lodge County

ANACONDA-DEER LODGE COUNTY
PLANNING DEPARTMENT
800 South Main
Anaconda, Montana 59711
Phone No. (406) 563-4010
Fax No. (406) 563-4076



October 21, 2008

Marlene Gallwitz, E.I
Anderson Engineering, Inc.
2417 W. Main St. Suite 1A
Bozeman, MT 59718

Re: proposed Spear Bridge; construction permit application

Dear Ms. Gallwitz:

As you are aware, ADLC Ordinance No. 208 requires that the ADLC Planning Department review the construction permit application for the above referenced bridge according to the standards set forth in that ordinance. The Planning Department has had this project under study for several months now. We have visited the site a number of times with the applicant, his representatives, and with numerous state and local agencies. In addition, we have reviewed the following documents:

1. LaMarche Creek Ranch Environmental Assessment, stamped May 23, 2008
2. LaMarche Creek Ranch HEC-RAS Analysis, stamped June 3, 2008
3. Plan View and Site Map, February 3, 2008
4. Final comments on the HEC-RAS Analysis from Jim Beck, October 7, 2008

Again as you are aware, Ordinance No. 208, BIG HOLE RIVER CONSERVATION DEVELOPMENT STANDARDS AND PERMITTING PROCESS, was enacted in cooperation with Butte-Silver Bow County, Madison County, and Beaverhead County. Its stated purpose, among others, is to provide for the preservation and orderly development along the Big Hole River; protect water quality, quantity, floodplain, and riparian resources; and to **preserve an undisturbed river corridor** and maintain natural resource functions and conditions. In reviewing your application, staff and the consultant team considered these purposes as set forth in Sec. 1 of the Ordinance.

Sec. 6 of Ordinance No. 208 sets forth the general standards that all developments within 500' of the ordinary high water mark (OHWM) must meet. The first of these is a required setback of 150 feet or more from OHWM for each structure or structural extension. According descriptions of the bridge provided by Anderson Engineering, Inc. in various reports, the proposed bridge over the main stem of the Big Hole River will be 220 feet in length. Bridge abutments will be placed outside of the OHWM, but well within the required 150' setback. This requirement alone is sufficient grounds for the permit application to be denied. The 150' standard is absolute, and staff has no authority to vary it under Ordinance No. 208. Another relevant standard is "protection of riparian resources and natural resource functions", which in the assessment of staff and consultants, are not preserved by the proposed bridge. Based upon the aforementioned purposes and standards, the ADLC Planning Department concludes that the Spear Bridge permit must be **denied.**

Should you wish to appeal this administrative action, Sec. 8 of Ordinance No. 208 sets forth a variance process through which you may seek a hearing before Big Hole River Conservation Development Standards Review Board. The Review Board then adopts a recommendation to the Anaconda-Deer Lodge County Board of Commissioners, who have final authority over the construction permit. We will be happy to assist you with that process should you choose to proceed.

In addition, we are in receipt of your application for a Special Use Permit (SUP) from ADLC. This permit entails a public hearing before the ADLC Planning Board with final approval authority by the governing body. Prior to the Planning Board public hearing, surrounding property owners within 300' will be notified via first class mail, and a public notice will be published in the Anaconda Leader. You may wish to wait until the construction permit is resolved before you proceed with the SUP, but the Planning Department is prepared to schedule a public hearing before the Planning Board whenever you request it. Please feel free to contact me directly and we can discuss this matter.

Respectfully submitted,

Connie

Connie Ternes-Daniels
ADLC Planning Director

Cc: Becky Guay, Chief Executive Officer
DNRC
Beaverhead County
Madison County
Butte-Silver Bow County
file

RESPONSE TO COMMENT LETTERS

5.0 RESPONSE TO COMMENT LETTERS

Anderson Engineering's responses are typed in blue and the comments are italicized. For complete comments please see the previous section.

5.1 Response to Wayne Hadley-Mad Dog Hunters and Anglers

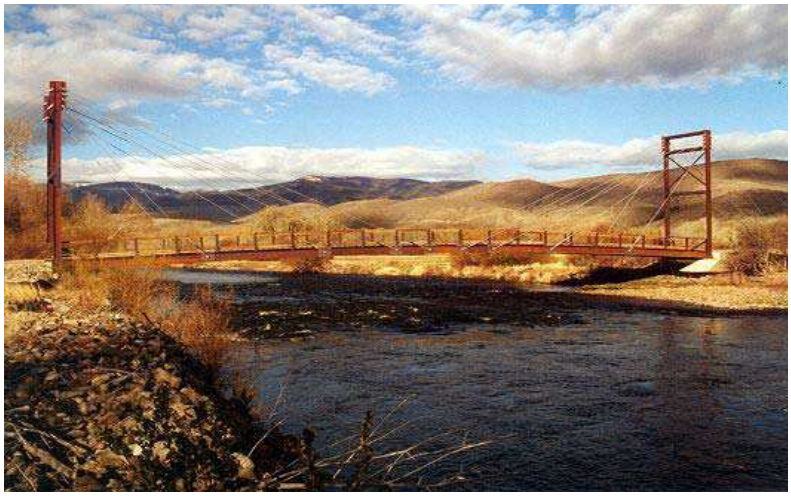
The following is Anderson Engineering's response to the letter written by Wayne Hadley of Mad Dog Hunters and Anglers in regard to the LaMarche Creek Ranch Bridge Project.

1. *"Sufficient set backs on both banks to allow normal high flows to pass without injury to the support structure. Perhaps the 20 or 50 year floodplains would be appropriated boundaries."* The bridge will be built outside of the ordinary low water marks and the floodways; however it will be in the floodplains. The change in water surface elevation during the 100-year storm event is 0.07 ft. The change in water surface elevation due the 25-year storm is 0.03 ft. and 50-year storm is 0.05 ft.

2. *"Adequate height so that the structure would pose no barrier to passage by wading or floating recreationists at the highest reasonably anticipated flows."* The bridge deck is designed to be 5 feet above the water surface during the 100-year storm event. However recreationists will most likely not be floating the Big Hole River during the 100-year storm event. The 10-year flow would more accurately represent a flow during which recreationists would be floating and the clearance between the bottom of the bridge deck and the water surface would be 6.8 ft.

3. *"Some binding agreement to insure that in the case of bridge failure the applicants would be responsible for the immediate removal of debris to protect public safety."* A binding agreement can be drafted to insure that in the case of a bridge failure the applicant will be responsible for the immediate removal of debris, along with the agreement that the bridge may be used by the public for a short time in the event of a nearby bridge failing. The applicant has the resources to remove such debris in a timely manner.

4. *"Construction in such a manner as to present the least obtrusive appearance on the viewscape."* The bridge is proposed to be 12 ft. wide, which is half the width of the recommended bridge width in the Butte-Silver Bow Bridge Standards. The bridge will be built with self-weathering steel which turns brown as shown in the picture below of a similar bridge built by Sahale Bridge and Anderson Engineering. The bridge does not propose any piers in the waterway, which could provide an obstacle for fish and/or recreationists. The Bridge deck is approximately 21inches thick which forms a thin profile and the rails are cables with timber top rails. The bridge location was carefully chosen to reduce the length as much as reasonably possible.



Similar Bridge over the Big Hole River

5.2 Response to Tony Schooner-Skyline and Anaconda Sportsmen's Club

The following is Anderson Engineering's response to the letter written by Tony Schooner of Skyline and Anaconda Sportsmen's Club in regard to the LaMarche Creek Ranch Bridge Project.

1. *"A precedent is being authorized while long time landowners along the river have been accessing their properties without bridges."* Many of the landowners along the river have access to the other side by county/state bridges or by existing roads. Only two other land owners, the Kampenschroer's downstream and the Bacon Ray Ranch upstream, have properties with similar situations. However, a precedent is not being set as no two circumstances are exactly the same.

2. *"The proposed bridge crosses public lands and public waters."* The proposed bridge will be constructed outside of the ordinary low water marks on private property. No improvements will be necessary in the river or public lands.

3. *"Destroys the aesthetic values of our public lands and water for all recreational users, floaters, fisherman and hunters."* The bridge is proposed to be 12 ft. wide, which is half the width of the recommended bridge width in the Butte-Silver Bow Bridge Standards, and is elevated to allow uninterrupted passage underneath the bridge, even during periods of high flows. The bridge will be built with self-weathering steel which turns brown. The bridge does not propose any piers in the waterway, which could provide an obstacle for fish and/or recreationists. The bottom of the bridge deck during average flows is approximately 6.8 feet above the water surface. Our hope is that the design considerations given to the visual impacts could be used as an example for others along the Big Hole River. Also part of the agricultural plan is to work out a Block Management plan.

4. *"Roads will appear in an area which in the past offers public wildlife a safe habitat and escape cover."* The property owner has a right to access to his property. The other options are to build a road through private, USFS, and State lands to access the property from the south or east. The proposed bridge and road minimize wildlife disturbance.

5. *"The public will be shortchanged because of the eyesore and recreational opportunities will be decreased."* Addressed in comment three.

6. *"Conservation easements are paid for with public tax dollars and in this case-no significant benefits for the public will happen."* In the United States, a conservation easement is an easement — a transfer of usage rights — which creates a legally enforceable land preservation agreement between a landowner and a municipality or a qualified land protection organization (often called a "land trust"), for the purposes of conservation. It restricts real estate development,

commercial and industrial uses, and certain other activities on a property to a mutually agreed upon level. (Wikipedia)

7. *"There is no monitoring of conservation easements where habitat protection and public benefits are listed as a top priority."* The restrictions, once set in place, "run with the land" and are binding on all future landowners (in other words, the restrictions are perpetual). The restrictions are spelled out in a legal document that is recorded in the local land records and the easement becomes a part of the chain of title for the property. The primary purpose of a conservation easement is to protect agricultural land, timber resources, and/or other valuable natural resources such as wildlife habitat, clean water, clean air, or scenic open space by separating the right to subdivide and build on the property from the other rights of ownership. (Wikipedia) The foundation that assumes responsibility of the easement hires a consultant to verify that the landowner is following the easement regulations on a regular basis.

8. *"The private parties involved will be the sole beneficiaries of public lands surrounding their isolated parcel."* The decision to place a conservation easement on a property is strictly a voluntary one where the easement is sold or donated. The landowner who gives up these "development rights" continues to privately own and manage the land and may receive significant state and federal tax advantages for having donated the conservation easement. Perhaps more importantly, the landowner has contributed to the public good by preserving the conservation values associated with their land for future generations. In accepting the conservation easement, the easement holder has a responsibility to monitor future uses of the land to ensure compliance with the terms of the easement and to enforce the terms if a violation occurs.(Wikipedia) In addition to the potential easement, a block management plan will be incorporated into the agricultural plan. More information on conservation easements/land trusts can be found at the land trust alliance webpage www.lta.org .

9. *"Unfortunately big money creates power and influence over our public agencies in this particular type of decision litigation (lengthy) usually deters sound reasoning."* Numerous state and local government agencies are involved in the permitting process all of which are bound by law to remain objective and work through the process in a timely manner.

10. *"I'm enclosing a copy of the Butte-Silver Bow bridge policy which outlines some of the very important concerns that our groups are trying to express."*

17.47.100 Minimum Development Standards for private bridges (Butte-Silver Bow Supp. No. 4,8-05)

A. Minimum Location Standards:

1. The proposed private bridge shall support existing agricultural operations. The proposed bridge shall not have a negative effect on agricultural water users and water user facilities: The proposed bridge will not interfere with existing agricultural operations in the area. The private property that the bridge will be located on is currently involved in agricultural operations, which the bridge will increase. Any other nearby agricultural lands will continue to be fully operational before, during, and after construction of the bridge. The bridge will not have an effect on the agricultural water use in the area. The bridge will provide access and opportunity for timber thinning and improved fire access.

2. The proposed private bridge shall not have an adverse effect on local services such as roads, public water systems, public sanitary and storm systems: The proposed bridge will be located on private property. The property does not have public water systems, sanitary or storm water sewer systems therefore the bridge will not have an effect or impact any local services. The existing approach to the property will be expanded and a new approach permit will be applied for.

3. The proposed bridge shall not have an adverse effect on the natural environment. This includes not having a negative impact on the riparian and aquatic ecosystems. The bridge shall not be located within three hundred feet of known fish spawning grounds: The bridge abutments will be placed out of the ordinary high water marks to avoid affecting any aquatic ecosystems. Disturbed river bank areas will be revegetated and stabilized. The proposed bridge is approximately half a mile downstream from the LaMarche Creek Tributary, which is a possible fish spawning ground.

4. The proposed private bridge shall not have an adverse effect on wildlife and wildlife habitat. This includes not placing the bridge within three hundred feet of wildlife migration corridors, feeding and breeding areas or watering holes: The proposed bridge is not within three hundred feet of any known wildlife migration corridors, feeding and breeding areas, or watering holes.

5. The proposed bridge shall not have an adverse effect on public health and safety: The proposed bridge will be designed by a professional engineer according to HS20 loadings. No effects on public health are anticipated. The proposed bridge will be elevated to allow recreational rafts to safely pass underneath.

6. The applicant shall provide easements for public utilities over the bridge and within all required access easements to the bridge from a public right(s)-of-way: Easements will be provided if necessary.

7. The applicant shall provide legal and physical access to the bridge from an existing public right-of-way. Legal and physical access to the bridge will be provided from Highway 43.

8. At no time will the bridge be allowed to be located on a dynamic section of the waterway or streambanks: The proposed bridge will not be located on a dynamic section of the Big Hole River.

    a. The bridge shall be located on a section of the waterway where the streambanks are currently armored and/or stable. Installing or making improvements to stabilize the waterway and streambanks for the proposed bridge's abutments shall not be allowed: The river banks at the proposed location for the bridge are stabilized with natural vegetation such as willows, Lodgepole pine trees and Douglas fir trees.

    b. The proposed bridge location must demonstrate a minimum of fifty continuous years of substantial stability of the water channel and streambanks: Historical photo research shows that the river has not migrated in the last 50 years in the proposed bridge location. The Flood Inundation Potential Mapping and Channel Migration Zone Delineation Big Hole River, Montana also states that "there is no measurable migration over the last 50 years, such as in the canyon above Divide."

9. The applicant shall file at the Butte-Silver Bow city-county clerk and recorder's office an access easement allowing the following uses of the bridge: The following access easements will be filed at the Beaverhead County and Anaconda-Deer Lodge County Clerk and Recorder's office not the Butte-Silver Bow City-County Clerk and Recorder.

    a. That the proposed bridge be open for emergency service (fire, law enforcement, ambulance, search and rescue, etc.) access to both sides of the waterway: Access will be granted.

    b. That the proposed bridge and private road accessing the property and bridge from the public right(s)-of-way shall be open for emergency public access (ingress or egress in the case of fire, flood, earthquake, injury, etc.) over or into the waterway (e.g., emergency evacuation or access. The applicant shall provide a mechanism at the entrances(s) to the private road that will allow access for emergency service personnel and the public, and: Gates will be accessible to emergency personnel.

    c. That the proposed bridge and any private road extending from either side of the bridge can be used by the public temporarily (up to one hundred eighty consecutive days) if the nearest public bridge were to fail and/or alternative access is closed: Access will be allowed temporarily if a nearby bridge were to fail.

10. The proposed bridge location shall not be located within six hundred feet of an existing residence on an adjacent property not owned by the applicant: K.L. Spear owns all the land within 600 feet of the bridge in all directions.

B. Minimum Design Standards

1. The proposed bridge shall free-span the river, and all structural supports shall be located outside of the channel and banks of the waterway: The proposed bridge free-spans the river with a cable stayed bridge and the abutments are outside of the ordinary low water marks on both sides of the river.

2. The proposed bridge shall meet the width and design load standards described within the Butte-Silver Bow city-county subdivision regulations, Section 10(F): The subdivision regulations require the bridge to be designed for H-15 loading, however this bridge will exceed the standard and be designed for HS-20 loading. To minimize the footprint the minimum 24 width requirement will not be met. The proposed bridge is for private and administrative access, not for subdivision access, and will be 12 feet in width.

3. The proposed bridge must have a minimum clearance of five feet between the lowest point of the bottom of the bridge and the highest elevation of the river during the one hundred-year flood to allow for safe passage under the bridge at all times: The water surface elevation during the one hundred-year flood is 5821.45 ft. and the proposed bridge deck bottom cord elevation is 5826.5 ft.

4. The bridge must be colored brown or green in color: The proposed bridge will be constructed of self-weathering steel which turns brown.

5. The bridge must be non-illuminated: The bridge will not be illuminated.

C. Miscellaneous Standards

1. The area disturbed by the construction of the bridge shall be limited to fifteen feet from the outer most point of the bridge abutments, excluding the access road area. All natural vegetation above and below the proposed bridge construction area shall not be disturbed and shall be maintained in its natural condition. In addition, the applicant will be required to plant two two-inch caliper or larger trees (native species to the area) near each entrance to the bridge. The maintenance of the trees shall be included with in the operations and maintenance plan: The proposed bridge construction will comply with the above standard and trees and willows will be planted.

2. The applicant shall agree in writing to comply with the Rural District 101-Growth Policy standards for all future development on the property that contains the bridge: Beaverhead and Anaconda-Deer Lodge Counties do not have a rural district 101 growth policy.

3. Temporary construction bridges shall not be allowed. All bridge construction shall be conducted from stable positions above the high water mark: No temporary bridge shall be constructed; materials will be transported to the other side of the river via helicopter and/or tramlines.

4. The applicant shall submit a weed plan to the Butte-Silver Bow city-county weed supervisor for review and approval prior to beginning construction of the bridge. The weed management plan shall include the following: Weed plans shall be submitted to Beaverhead and Anaconda Deer-Lodge Counties prior to beginning construction on the proposed bridge.
    a. A reclamation plan for all disturbed areas around the bridge and for all areas along the access road(s) to the bridge: A reclamation plan will be provided.

    b. A bond to secure the completion of the weed management plan. A bond will be provided, if required by Beaverhead and/or Anaconda-Deer Lodge Counties.

5.3 Response to Craig Fager-MFWP

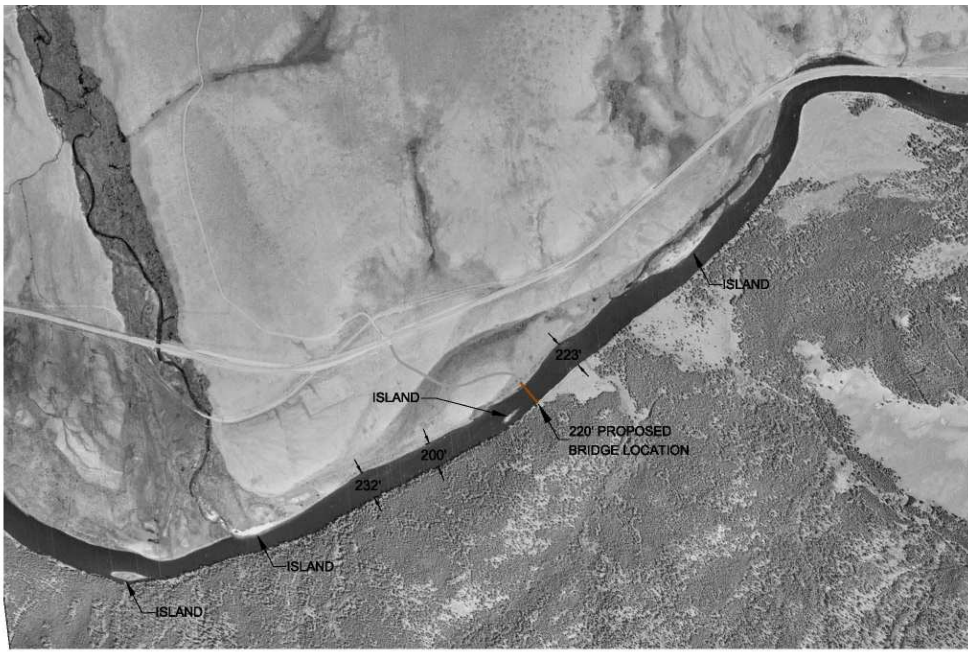
The following is Anderson Engineering's response to the letter written by Craig Fager of Montana Fish Wildlife and Parks in regard to the LaMarche Creek Ranch Bridge Project.

1. *"The proposed bridge provides no public access benefit, making the project a much larger social issue…."* A block management plan is going to be included in the agricultural plan to benefit the local hunting community.

5.4 Response to Jim Olsen-MFWP

The following is Anderson Engineering's response to the letter written by Jim Olsen of Montana Fish Wildlife and Parks in regard to the LaMarche Creek Ranch Bridge Project.

1. *"While the bridge does span the high water mark, there is still, in my opinion, significant risk of substantially altering the hydrology of the river at this location, which may cause impacts to the fisheries habitat and potentially increased erosion."* The hydrology of the river will not be affected; however the hydraulics of the river will be minimally affected by the proposed bridge. The change in river water velocity and elevation was calculated using HEC-RAS modeling software. The maximum change in water surface elevation on the main river channel is 0.07 ft. and the maximum change in water velocity is 0.07 ft/s during the 100-year storm event. A maximum change in water surface elevation of 0.5 ft. is permitted by both counties floodplain regulations (Chapter V.B.2). The change in water surface elevation due to the construction of a bridge over the Big Hole River is just over a tenth of the allowable amount. These changes occur during the 100-year storm and will be less during normal conditions. The proposed bridge location is stable and has not migrated or eroded noticeably in the last fifty years as shown in the following aerial photos.



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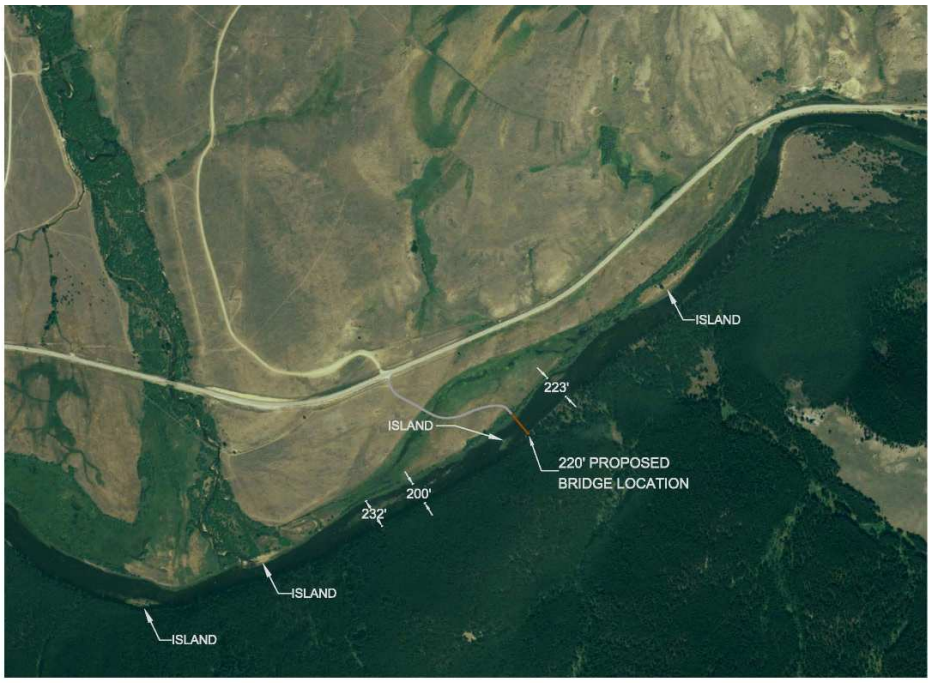

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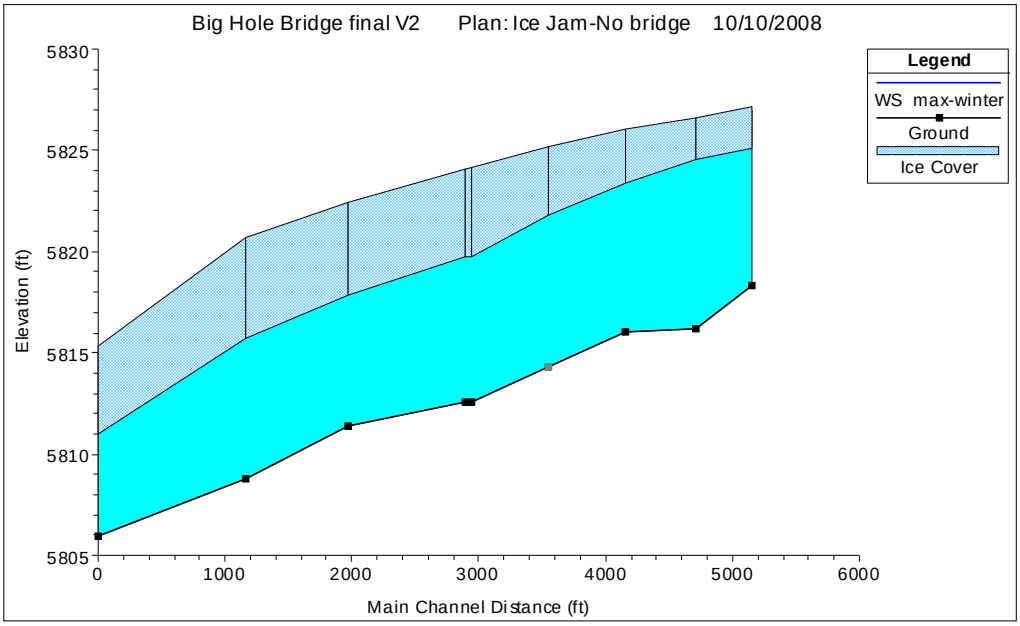
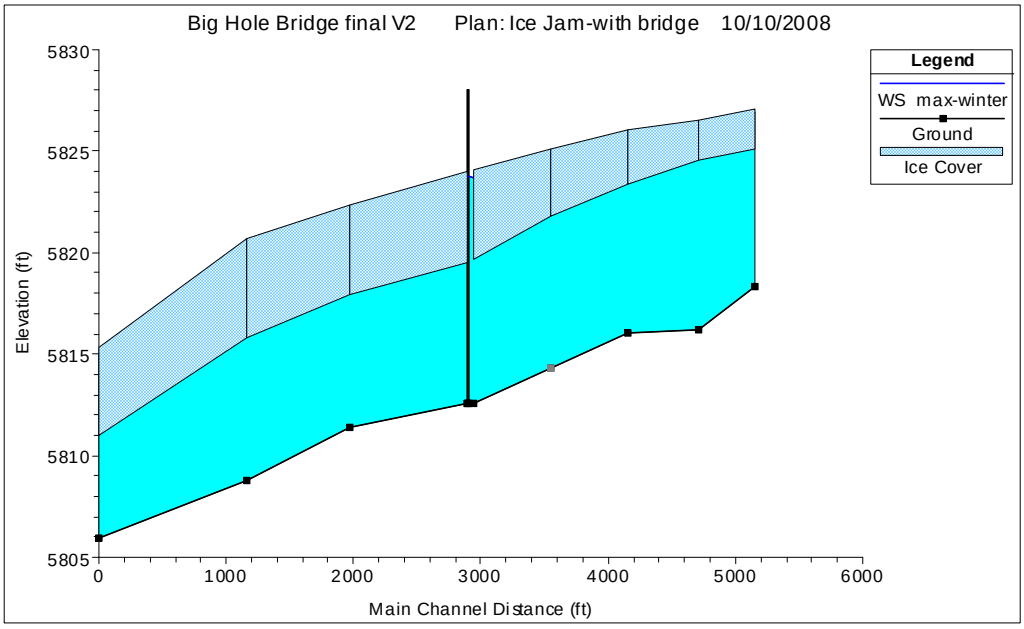
2. *"My main concern is with the potential of ice jams at the location and the impacts ice jams may have as a result of blocking significant portions of the floodplain with road fill and bridge abutments where flood and ice flows would likely move through."* The ice jam effect was modeled using HEC-RAS at the bridge location. The profile windows on the next page, produced by HEC-RAS, show the ice jam event before and after the construction of the bridge, respectively. Real time data from the USGS website was used to model the flows. The gage site at Melrose, Montana has been monitored since the winter of 1923 and the website provides a table with the monthly flow rates from then until now. Assuming the "winter" months are October thru April the highest recorded flow value is 3515 cfs in April of 1943. This value was used to model the ice jamming event even though Melrose is downstream of the proposed bridge location and has noticeably higher flows, to provide a conservative analysis. The ice jam occurs naturally with or with out the bridge due to a change in grade of the river bed. The ice and water will still be able to move over the remaining floodplain since the road will be built at-grade and allow water and ice to move over it during flooding and/or ice jam events.



Before Bridge Construction



After Bridge Construction

3. *"I also do not feel that the EA provided enough information to eliminate Alternatives A and D."* Alternatives A and D proposed approximately 8 and 10 mile roads that would disturb pristine wildlife habitat as well as effect the habitats of the Fringed Myotis, Northern Goshawk and the Great Gray Owl, all of which are listed as sensitive species by the BLM and the USFS. Not only would these species be affected during construction of a road, but also after due to the large amount of trees that would need to be removed. Alternatives A and D would also introduce significant human traffic into an area that has been previously inaccessible to humans as this would become a public road up until the private property line. A portion of these roads would follow existing logging roads and existing trails, which would need to be significantly improved. The use of the existing roads and trails are currently restricted by the USFS for erosion control, fall wildlife security, summer elk range and conflicts of use. These alternatives would also not provide year round access due to the large amount of snowfall in the winter months. In addition the USFS has said that they would not support building a road through USFS land to access private property. Due to the effects mentioned above and in the body of this EA these two alternatives were eliminated from consideration early in the evaluation process.

4. *"However, the EA does not define "footprint."* The footprint for Alternatives A and D is a 30 ft. wide area along the length of roadway. Alternatives A and D proposed 18 ft. wide roads across steep terrain that would at a minimum effect 6 ft. of land to either side of the road.

5. *"While my duty as a Fisheries Biologist is to review the project based upon its potential impacts to the river, its habitat and fisheries, I also feel it is appropriate to represent the recreationists who frequent the Big Hole River for fishing and other forms of recreation. …. Because of the size, location and extent of the bridge, I feel this bridge will take away from the natural beauty of the river and will reduce the quality of experience for recreational users of the river."* Personal opinions aside; the bridge is proposed to be 12 ft. wide, which is half the width of the recommended bridge width in the Butte-Silver Bow Bridge Standards, and is elevated to allow uninterrupted passage underneath the bridge, even during periods of high flows. The bridge will be built with self-weathering steel which turns brown. The bridge does not propose any piers in the waterway, which could provide an obstacle for fish and/or recreationists. The bridge location and construction materials were carefully chosen to reduce the length and visual impacts as much as reasonably possible.

5.5 Response to Darren Olsen-USFS

Anderson Engineering agrees with the US Forest service that building a road across US Forest Service lands is not the best means of access.

5.6 Response to Jerry Wells

The following is Anderson Engineering's response to the letter written by Jerry Wells in regard to the LaMarche Creek Ranch Project.

1. *"The first thing that I noticed was that this document was not called a "Draft" EA but rather an EA. I am no expert on the Montana Policy Act (MEPA) but my experience would lead me to believe that an EA written for a government action, which in this case would be a lease to the applicant by the Montana Department of Natural Resources and Conservation (MDNRC) under their ownership of the bottom of the streambed would be released as a draft for public comment."* Anderson Engineering is following the processes outlined in the Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains and, other Water Bodies. This joint application encompasses the 310 Permits, Floodplain Permits, Section 404 Permit, and the Navigable Rivers Land Use License or Easement. Anderson Engineering provided an EA as part of the DNRC application to cross state lands.

2. *"The second thing I noticed was that there was no mention of public scoping to determine the issues involved with the proposal. This also seems to be outside of the typical MEPA process for Montana government actions, particularly those likely to be controversial. This is particularly true for actions that may impact the Big Hole River, a wild trout river of international renown. A public scoping process for actions such as are proposed should be extensive and take the necessary time to identify issues that need to be addressed."* Anderson Engineering has volunteered to help with the MEPA process by writing the EA, however the DNRC is overseeing the work. If further public meetings are necessary the DNRC will make that determination. The DNRC makes the final decision on whether or not further scoping is necessary.

3. *"The third thing that I noticed was that there was no mention of a public comment process in the EA or of a comment period to provide comments. I called the engineering firm and they told me that public comments were being taken until June 16, although I don't know how people were supposed to know that."* Tim Egan with the DNRC sent out a scoping letter which addressed the comment period, however comments are welcome at any time. In addition, the State may determine that further public scoping is needed.

4. *"In terms of issues related to the proposal, I would first like to address what appear to be significant issues with the location and construction of the proposed bridges. This area of the river is prone to significant ice formation and movement in cold winters. I was the MFWP fisheries biologist for the Big Hole River in the winter of 1978-79 and recall major ice jams in the vicinity. During these events, channel constrictions such as bridge abutments cause ice to back up and water and ice to move laterally."* The ice jam event was modeled using HEC-RAS at the bridge location. Real time data from the USGS website was used to model the flows. The gage site at Melrose, Montana has been monitored since the winter of 1923 and the website provides a table with the monthly flow rates from then until now. Assuming the "winter" months are October thru April the highest recorded flow value is 3515 cfs in April of 1943. The bridge has a small effect on the ice jam on the left bank and a minimal effect on the right bank; however the bridge deck is sufficiently elevated to allow for effortless movement of the ice underneath.

5. *"The smaller concrete bridge is listed as only 20 feet long but it is my understanding that there will also be a significant amount of filling of the floodplain necessary to reach the bridge. This floodplain filling will exacerbate icing problems in cold winters by reducing the channel width for ice related flows. It could also reduce the river capacity to handle high flows in spring runoff period."* The ice and water will still be able to move over the remaining floodplain as the road will be built outside of the channel at-grade and will allow water and ice to move over it during flooding and/or ice jam events.

6. *"The EA has hardly a word about visual impacts associated with this proposal. This is a serious deficiency. To the thousands of recreationists that experience the Big Hole River every year either from a watercraft, from the highway or on foot, the view shed is a significant part of their experience. The impact of the proposed bridges to the quality of the river experience is significant and cannot be mitigated by painting them natural colors as proposed in the EA."* The bridge is proposed to be 12ft wide, which is half the width of the recommended bridge width in the Butte-Silver Bow Bridge Standards, and is elevated to allow uninterrupted passage underneath the bridge, even during periods of high flows. The bridge will be built with approximately a 21'' deck and self-weathering steel which turns brown. The bridge does not propose any piers in the waterway, which could provide an obstacle for fish and/or recreationists. The bridge location was carefully chosen to reduce the length as much as reasonably possible.

5.7 Response to Jack Jones

Anderson Engineering is attempting to provide responses to all comments received in association with the LaMarche Creek Ranch Bridge Project. However Anderson Engineering can only respond to technical design questions, not personal opinion. The comments received by Anderson Engineering from Jack Jones are primarily personal opinion and difficult to respond to. The following is Anderson Engineering's response to the letter written by Jack Jones in regard to the LaMarche Creek Ranch Bridge Project.

1. *"The Bighole River is a nationally famous blue ribbon wild trout stream."* Our client K.L. Spear realizes that the Big Hole River is an important landmark to Montana and this is the reason he is willing do work and bridge design above and beyond what is required by the regulatory agencies to maintain the aesthetic value of the river.

2. *"The area is being subject to real estate and overdevelopment now."* The client is aware of these problems and this is why K.L. Spear is going through the pains he is to do it "the right way."

3. *"Water is in short supply and many issues have surfaced on the management of the Bighole ecosystem."* No diversion of water is proposed by this project.

4. *"The public streambed gives us leverage to deny screwing up the Bighole River. We have the Montana Stream Access Law as well."* Under the Montana Stream Access Law, the public may use rivers and streams for recreational purposes up to the ordinary high-water mark. Although the law gives recreationists the right to use rivers and streams for water-related recreation, it does not allow them to enter posted lands bordering those streams or to cross private lands to gain access to streams (MFWP). However, a wildlife and agricultural plan will be completed which includes a Block Management program.

5.8 Response to Jack Atcheson

The following is Anderson Engineering's response to the letter written by Jack Atcheson in regard to the LaMarche Creek Ranch Project.

1. *"See Ravalli Co vs. OSL and M.S. Court Decisions."* Not enough information is provided in the letter for Anderson Engineering to address this comment.

1. *"Federal Law is Supreme see Taylor 1934 Grazing Act (TG) and Unlawful Enc Act 1988."* The Taylor Grazing Act is a United States federal law enacted in 1934 that regulates grazing on federal public land. The act was named for Edward T. Taylor, a congressman from Colorado. The Secretary of the Interior has the authority to handle all of the regulations, and he became responsible for establishing grazing districts. Before these districts are created there must be a hearing held by the state. These can be vacant, unappropriated, and unreserved land from public lands, all except for Alaska, national forests, parks, monuments, Indian reservations, railroad grant lands, and revested Coos Bay Wagon Road grant lands. Surrounding land owners may be granted right of passage over these districts. Permits are given for grazing privileges in the districts. Also permits can be given to build fences, reservoirs, and other improvements. The permittees are required to pay a fee, and the permit cannot exceed ten years but is renewable. Permits can be revoked due to severe drought or other natural disasters that deplete grazing lands. The Grazing Service, established in the 1930's within the Department of the Interior to administer the Taylor Grazing Act was merged with the General Land Office in 1946 to form the Bureau of Land Management (Wikipedia). No grazing in public lands is proposed by this project. The proposed bridge would connect two large parcels of private land not public lands. Anderson Engineering was unable to find any information regarding an "Unlawful Enclosure Act from 1988," however, there was a court case concerned with the 1934 Grazing act and an enclosure on public land in 1988. The Supreme Court of the United State found that it is unlawful to enclose public land with a fence even if there is a grazing permit issued to a private individual. No fencing of public lands is proposed by this project.

2. *"If you allow one, then why not another, then another! It is not a public benefit."* Only two other land owners, the Kampenschroer's downstream and the Bacon Ray Ranch upstream, have properties with similar situations. However, no two situations are exactly the same. The proposed bridge would eliminate fording of the river and provide administrative access to public lands. A block management plan would also be included in the overall agricultural plan, which would benefit local hunters.

3. *"Or how about flying into isolated sections of public state land."* Constructing a landing strip anywhere on the south side of the Big Hole River, whether on private or public land, would disturb more land and wildlife than the proposed bridge would.

4. *"How about building a cable or bridge over private land to reach other public land, or a ladder at section corners."* Building a road and bridge at Sportsman Park Campground through state land and connecting to K.L. Spears property was previously analyzed by Anderson Engineering. This alternative was not mentioned in the EA for numerous reasons. This location along the river is not as straight as the proposed bridge location and would be more likely to erode the banks. There are more wetlands in this area that would be affected by construction of both the road and the bridge. The bridge would be visible for a greater distance than at the proposed location and larger easements across state lands would be necessary.

5.9 Response to Anaconda-Deer Lodge County

The following is Anderson Engineering's response to the October 21, 2008 letter written by Anaconda-Deer Lodge County in regard to the LaMarche Creek Ranch Project.

The Big Hole River Conservation and Development Permit is a result of a four county review process that included: Butte-Silver Bow, Madison, Beaverhead and Anaconda-Deer Lodge Counties. This development permit takes jurisdiction over all of the property within 500 feet of the ordinary high water mark of the Big Hole River. All four counties have separately adopted this development permit process.

The proposed LaMarche Creek Ranch Bridge would free span the Big Hole River and the bridge abutments would be placed outside of the ordinary high water marks on both banks. The Big Hole River is also the dividing line between Beaverhead and Anaconda-Deer Lodge Counties. The ordinances adopted by Beaverhead and Anaconda-Deer Lodge Counties are nearly identical. However Anaconda-Deer Lodge County omitted some critical definitions in their ordinance, specifically the definition of a structure. Beaverhead County's ordinance defines a structure as: "A building with a roof. Does not include irrigation structures, fences, etc."

Beaverhead County has informed Anderson Engineering, Inc. that this Big Hole River Conservation and Development Permit does not apply to the building of a bridge. Anaconda-Deer Lodge County has, on the other hand, informed Anderson Engineering, Inc. that this permit does apply to a bridge on their side of the Big Hole River and that the bridge must comply with the 150 foot setback from the ordinary high water mark.

Complying with this set back would increase the length of the bridge from 220 feet to 374 feet; figures 1 and 2 show computer renderings of the two bridges respectively. The number of cables needed to hold the bridge would increase and the towers for the bridge would also increase in height from 40 feet to 100 feet.

The permit application specifically mentions septic and wastewater treatment which implies that the permit is intended for home sites. Anaconda-Deer Lodge County's application of this ordinance will require further clarification and Anderson Engineering, Inc. is in the process of working with Anaconda-Deer Lodge County to resolve this issue.

The Department of Natural Resources Conservation will not grant an easement until all pertinent permits have been approved or conditionally approved.

Figure 1: 220 foot Cable Stayed Bridge

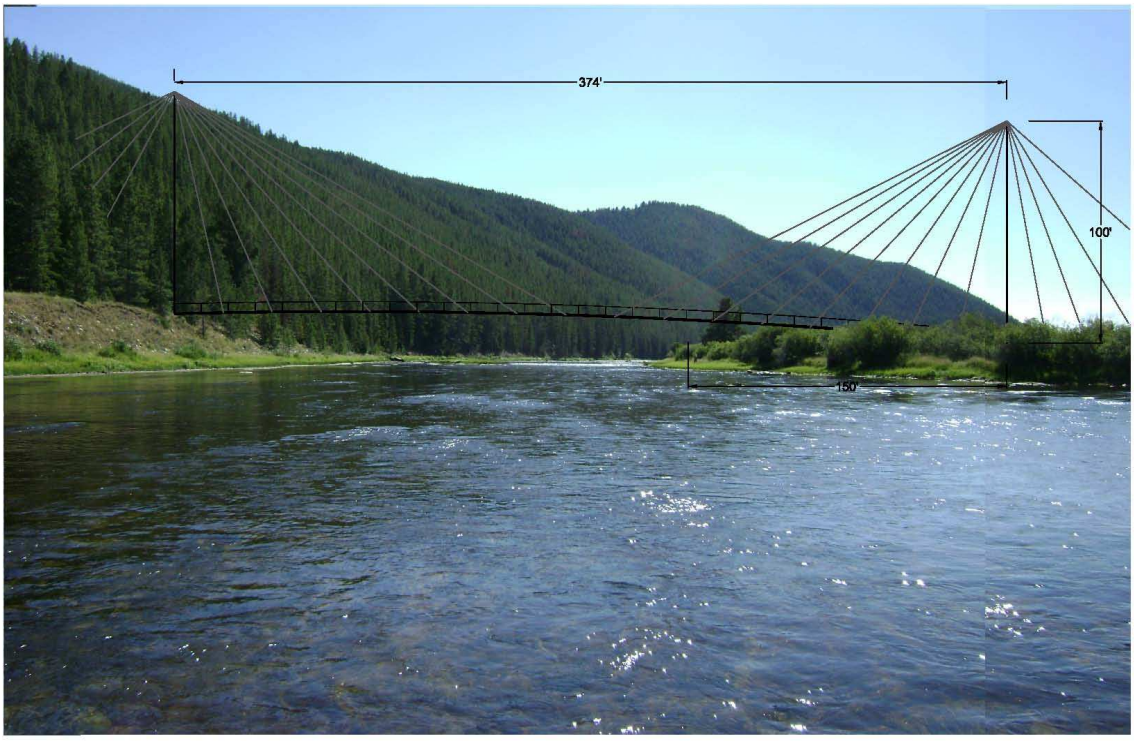


Figure 2: 374 foot Cable Stayed Bridge

5.10 New Comments

The DNRC is requesting comments under the Montana Environmental Policy Act regarding the easement across the Big Hole River. Comments will be considered if received by January 1, 2009 and may be sent to:

Tim Egan
DNRC
730 N. Montana St
Dillon, MT 59725
Or e-mail Tim at tegan@mt.gov

If you have further questions you may call him at 406-683-6305.

Anderson Engineering is also accepting comments regarding the project in its entirety and can be sent to:

Bill Anderson
Anderson Engineering, Inc.
2417 W. Main St. Suite 1A
Bozeman, MT 59718
Or e-mail Bill at bill@andersonmontana.com

If you have further questions you may call Bill at 406-585-1484.

APPENDIX A

Appendix A

Beaverhead 310 Permit

Form 273 (Rev. 09/22/03) (file name 273-03.doc)

APPLICATION NO. BCD 0819

310 PERMIT
CONSERVATION DISTRICT'S DECISION

DECISION DATE Aug 11, 2008

Notice: THIS AUTHORIZATION DOES NOT GIVE PERMISSION TO CARRY OUT A PROJECT ON LAND THAT IS NOT OWNED BY THE HOLDER OF THIS PERMIT. Landowner permission, easements or other federal, state, or local permits, licenses, special use permits, or authorizations may be required before construction of the project. It is the duty of the holder of this permit to determine which are necessary and obtain them prior to construction of the project.

Name of Applicant Anderson Engineering, Inc.

Address 2417 W. Main St, Suite 1A City Bozeman State MT Zip 59718

Perennial Stream Big Hole River

Supervisors' Decision (circle): Approved (Approved w/ Modification) Denied Not a Project

Explanation:

☐ See attached (if more room is necessary)

Installation of all abutment to be above and behind bank scour.

Permit Expiration Date Aug 11, 2009 Work may begin on or after: _____

Date Transmitted to Applicant and DFWP _____

Supervisors' Signatures:

Byron Mayfield — Jerry A Meine

[illegible] — Dennis McCoy

Carl Walls — Art Christenson

TO BE COMPLETED BY THE APPLICANT

Check the appropriate box, sign and return a copy to the district office **within 15 days** of receipt of this permit.

☐ I agree to proceed with the project in accordance with the approved application and specifications outlined in this permit and will allow a follow-up inspection.

☐ I disagree with the terms of this permit and I will seek judicial review in district court within 15 days of receipt of this permit. (This box may only be checked if you did not sign an arbitration agreement when you submitted your application.)

☐ I disagree with the terms of this permit and hereby request arbitration. I agree to abide by the arbitration agreement attached to or on the reverse of this form – OR, if an arbitration agreement was signed when the permit application was submitted, I will abide that agreement.

Signature of Applicant: _____ Date _____

Anaconda-Deer Lodge 310 Permit

Form 273 (Rev. 09/22/03) (file name 273-03.doc)

APPLICATION NO. DLU-15-08

310 PERMIT
CONSERVATION DISTRICT'S DECISION

DECISION DATE 8-12-08

Notice: THIS AUTHORIZATION DOES NOT GIVE PERMISSION TO CARRY OUT A PROJECT ON LAND THAT IS NOT OWNED BY THE HOLDER OF THIS PERMIT. Landowner permission, easements or other federal, state, or local permits, licenses, special use permits, or authorizations may be required before construction of the project. It is the duty of the holder of this permit to determine which are necessary and obtain them prior to construction of the project.

Name of Applicant Anderson Engineering

Address 2417 W. Main St. City Bozeman State Mt. Zip 59718

Perennial Stream Big Hole River

Supervisors' Decision (check): ☐ Approved ☒ Approved w/ Modification ☐ Denied ☐ Not a Project

Explanation:

☐ See attached (if more room is necessary)

Bridge abutment will be placed 15 to 20 lineal feet further back away from its current design location.

Permit Expiration Date 8-12-2009 Work may begin on or after: 8-19-2008

Date Transmitted to Applicant and DFWP 8-18-2008

Supervisors' Signatures:

John a Hollenbeck

Jameson Lee

Sharon L. Scognamiglio

[signature]

[signature]

TO BE COMPLETED BY THE APPLICANT

Check the appropriate box, sign and return a copy to the district office within 15 days of receipt of this permit.

☐ I agree to proceed with the project in accordance with the approved application and specifications outlined in this permit and will allow a follow-up inspection.

☐ I disagree with the terms of this permit and I will seek judicial review in district court within 15 days of receipt of this permit. (This box may only be checked if you did not sign an arbitration agreement when you submitted your application.)

☐ I disagree with the terms of this permit and hereby request arbitration. I agree to abide by the arbitration agreement attached to or on the reverse of this form – OR, if an arbitration agreement was signed when the permit application was submitted, I will abide that agreement.

Signature
Applicant: ______________________ Date ______________ of

Nationwide 404 Permit

Received 07-29-2008

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
HELENA REGULATORY OFFICE
10 WEST 15TH STREET, SUITE 2200
HELENA MT 59626

REPLY TO
ATTENTION OF

July 25, 2008

Helena Regulatory Office
(406) 441-1375 Phone
(406) 441-1380 Fax

Subject: Corps File Number **NWO-2008-00703-MTH**
LaMarche Creek Access Road

KL Spear and Jane Spear IRR, WEA, Voss Bruce
c/o Chip Lenihan
PO Box 3389
333 W. Colorado Avenue
Telluride, Colorado 81435

Dear Mr. and Mrs. Spear:

We have reviewed your request for Department of the Army authorization to construct an access road and bridge across the Big Hole River. The proposed work is located in Section 35, Township 2 North, Range 13 West, County, Montana.

Specifically, you requested authorization for the following work:

1. Place approximately 325 cubic yards (cy) of pit run and surface gravel for bridge abutments and access road, in 0.074 acres of wetlands.
2. A shallow side channel of the Big Hole River will be spanned with a 20' bridge and the Big Hole River will be spanned with a 220 foot cable stayed bridge.
3. Best Management Practices for erosion and sediment control will be in place prior to construction.

Under the authority of Section 404 of the Clean Water Act, Department of the Army permits are required for the discharge of fill material into waters of the United States. Waters of the U. S. include the area below the ordinary high water mark of stream channels and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters. Isolated waters and wetlands, as well as man-made channels, may be waters of the U. S. in certain circumstances, which must be determined on a case-by-case basis.

We have prepared a preliminary jurisdictional determination (JD) for the site, which is a written indication that waterways/wetlands within your project area may be Waters of the United States. These waters were treated as jurisdictional Waters of the U.S. for the purposes of determining project impacts and compensatory mitigation requirements. If you concur with the findings of the enclosed preliminary JD, please sign it and return it to the letterhead address within two weeks.

If you believe the preliminary JD is inaccurate, you may request this office complete an approved JD **prior to your commencement of any work** in a Water of the U.S. An approved JD is an official determination regarding the presence or absence of Waters of the U.S. Completion of an approved JD may require coordination with the U.S. Environmental Protection Agency.

If you do not want the Corps to complete an approved JD, you may proceed with the proposed project in accordance with the terms and conditions of Department of the Army Nationwide Permit No. 14 found in the March 12, 2007 Federal Register (72 FR 11092), Reissuance of Nationwide Permits. Enclosed is a fact sheet that fully describes this Nationwide Permit and lists the General and Regional Conditions that must be complied with.

In addition to conditions referenced above, the following **Special Conditions** apply:

1. **All erosion and sediment control practices shall be in place prior to any grading or filling operations and installation of proposed structures or utilities. They shall remain in place and maintained until construction is completed and the area is stabilized.**
2. **All trees and shrubbery which are not specifically required to be cleared or removed for construction or operations purposes shall be preserved and shall be protected from any damage by construction operations and equipment**

Although an Individual Department of the Army permit involving a public interest review will not be required for the project, this does not eliminate the requirement that you obtain any other applicable Federal, state, tribal, and local permits as required.

The Montana Department of Environmental Quality has provided water quality certification for this Nationwide Permit (see General Condition 21 on the enclosed fact sheet). However, this does not eliminate the need to obtain other permits that may be required by that agency.

In accordance with the terms and conditions of the Nationwide Permit, you are responsible for all work accomplished. If a contractor or other authorized representative will be accomplishing the work authorized by the Nationwide Permit on your behalf, it is strongly recommended that they be provided a copy of this letter and the attached conditions so that they are aware of the limitations of the applicable Nationwide Permit. Any activity that fails to comply with all of the terms and conditions of the Nationwide Permit will be considered unauthorized and subject to appropriate enforcement action.

In compliance with General Condition 26, the attached Compliance Certification form must be signed and returned to the address listed upon completion of the authorized work and any required mitigation.

This verification will be valid until **July 25, 2010.**

Should you at any time become aware that either an endangered and/or threatened species or its critical habitat exists within the project area, you must immediately notify this office.

If there are questions concerning this determination please contact Deborah Blank of my staff at (406) 441-1375 and reference Corps File Number **NWO-2008-00703-MTH**.

Sincerely,

Allan Steinle
Montana Program Manager

Enclosures:

Compliance Certification Form
Nationwide Permit -14- Fact Sheet
Montana Regional Conditions
(Preliminary Jurisdictional Determination)

CF (with enclosures)
Ms. Marlene Gallwitz, E.I.
Anderson Engineering, Incorporated
2417 W. Main Street, Suite 1A
Bozeman, Montana 59626

MDOT Approach Permit

STATE OF MONTANA – DEPARTMENT OF TRANSPORTATION
HELENA, MONTANA 59620-1001
DRIVEWAY APPROACH APPLICATION AND PERMIT

– To be filled in by Department of Transportation Personnel –

F.A. ROUTE NO.: Highway 43 APPROACH STATION: _____

DISTRICT: Butte NO.: _____ MILEPOST: 50.55

COUNTY: Deer Lodge PROJECT: _____

DRAINAGE AS DETERMINED BY DEPT. OF TRANSPORTATION:

Type: N/A Size: _____ Length: _____

Access Control: ☐ Yes ☒ No

D.W.C. 10/7/08 — Approach Recommended by District Traffic Engineer or Traffic Unit — Date

C Ray Stevens 10/20/08 — Approach Application Approved by District Administrator — Date

_____ _____ — If Access Control is Yes: Approach Recommended by Access Manager, R/W Bureau — Date

APPLICANT (Property Owner)

Name: KL Spear Represented by Anderson Engineering Phone: 406-585-1484

Address: 2417 W Main St. Suite 1A Bozeman MT 59718

herein termed the applicant, requests permission to construct approach(es) described and shown on attached plot plan or plan and profile and hereby made a part of this application.

Please indicate if permits or approaches are required from units of government other than the Department of Transportation. Write the number of permits required in the box:

☐ Federal Government ☐ State ☐ County ☐ City ☒ N/A

Private: X Public: _____

Use of Property or Facility: Residence
(Residence, Trailer Court, Gas Station, Field Access, Type of Business, etc.)

LOCATION:

City or Town: 14.5 miles West of Wise River
(If rural, direction & approx. distance from nearest city or town)

Street Name, if any: _____

ROADWAY OR HIGHWAY:

Sight Distance: Left: 1000 Ft. Right: 1660 ft.

Surfacing: Asphalt Width: 26 Ft.

APPROACH:

Estimated number of trips per day: 4

Width: 24Ft. Flare: 44Ft. Side of Roadway: South
(N, E, S, W)

DRAINAGE: See above as determined by Department of Transportation.

INSTRUCTION CONCERNING USE OF THIS FORM

Applicant will complete and deliver this form in duplicate to the District Administrator serving the area in which the Approach Permit is requested.

The District Administrator, in conjunction with the District Traffic Engineer, is delegated authority to approve curb cuts, public and private approaches serving businesses, residences and agricultural uses in rural or urban areas without further consultation if the traffic conditions are not congested. In congested areas, usually urban situations,

the District Administrator and District Traffic Engineer can request the Manager, Traffic Unit in Helena for additional technical assistance. If this is necessary, the approach should be scaled onto existing plan and profile sheets showing the highway right-of-way and sent to Helena.

- APPROACH PERMIT -

Subject to the following terms and conditions, the permit applied for upon the reverse side hereof, is hereby granted:

1) TERM. This permit shall be in full force and effect from the date hereof until revoked as herein provided.

2) RENTAL. Rental shall be

3) REVOCATION. This permit may be revoked by State upon giving thirty (30) days notice to Permittee by ordinary mail, directed to the address shown in the application hereto attached, but the State reserves the right to revoke this permit without giving said notice in the event Permittee breaks any of the conditions or terms set forth herein.

4) COMMENCEMENT OF WORK. No work shall be commenced until Permittee notifies the District Administrator, shown in application, when he proposes to commence work.

5) CHANGES IN HIGHWAY. If the State changes the highway, or there are other changes to adjoining streets, alleys, etc., which necessitate alterations in structures or installations installed under this permit, Permittee shall make the necessary alterations at Permittee's sole expense or in accordance with a separate agreement.

6) STATE SAVED HARMLESS FROM CLAIMS. In accepting this permit the Permittee, its/his successors or assigns, agree to protect the State and save it harmless from all claims, actions or damage of every kind and description which may accrue to, or be suffered by, any person or persons, corporations or property by reason of the performance of any such work, character of materials used, or manner of installations, maintenance and operation, or by the improper occupancy of said highway right of way, and in case any suit or action is brought against the State and arising out of, or by reason of, any of the above causes, the Permittee, its/his successors or assigns, will upon notice to it/him of the commencement of such action, defend the same at its/his sole cost and expense and satisfy any judgment which may be rendered against the State in any such suit or action.

7) PROTECTION OF TRAFFIC. Insofar as the interests of the State and the travelling public are concerned, all work performed under this permit shall be done under the supervision of the District Administrator of the Department of Transportation and his authorized representatives, and he/they shall indicate barriers to be erected, the lighting thereof at night, placing of flagmen and watchmen, manner in which traffic is to be handled, and shall specify to Permittee how road surface is to be replaced if it is disturbed during operations, but said supervision shall in no way operate to relieve or discharge Permittee from any of the obligations assumed by acceptance of this permit, and especially those set forth under Section 6 thereof.

8) HIGHWAY DRAINAGE. If the work done under this permit interferes in any way with the drainage of the State Highway affected, Permittee shall, at its/his own expense, make such provisions as the State may direct to take care of said drainage.

9) RUBBISH AND DEBRIS. Upon completion of work contemplated under this permit, all rubbish and debris shall be immediately removed and the roadway and the roadside left in a neat and presentable condition satisfactory to the State.

10) WORK TO BE SUPERVISED BY STATE. All work contemplated under this permit shall be done under the supervision of and to the satisfaction of the authorized representative of the State, and the State hereby reserves the right to order the change of location or removal of any structure or installation authorized by this permit at any time, said changes or removal to be made at the sole expense of the permittee.

11) STATE'S RIGHT NOT TO BE INTERFERED WITH. All such changes, reconstructing or relocation shall be done by Permittee, in such a manner as will cause the least interference with any of the State's work, and the State shall in no way be liable for any damage to the Permittee by reason of any such work by the State, its agents, contractors or representatives, or by the exercise of any rights by the State upon the highways by the installations or structures placed under this permit.

12) REMOVAL OF INSTALLATIONS OR STRUCTURES. Unless waived by the State, upon termination of this permit, the Permittee shall remove the installations or structures contemplated by this permit and restore the premises to the condition existing at the time of entering upon the same under this permit, reasonable and ordinary wear and tear and damage by the elements, or by circumstances over which the Permittee has no control, excepted.

13) MAINTENANCE AT EXPENSE OF PERMITTEE. Permittee shall maintain, at its/his sole expense the installations and structures for which this permit is granted, in a condition satisfactory to the State.

14) STATE NOT LIABLE FOR DAMAGE TO INSTALLATIONS. In accepting this permit the Permittee agrees that any damage or injury done to said installations or structures by a contractor working for the State, or by any State employee engaged in construction, alteration, repair, maintenance or improvement of the State Highway, shall be at the sole expense of the Permittee.

15) STATE TO BE REIMBURSED FOR REPAIRING ROADWAY. Upon being billed therefor Permittee agrees to promptly reimburse State for any expense incurred in repairing surface or roadway due to settlement at installation, or for any other damage to roadway as a result of the work performed under this permit.

16) OTHER CONDITIONS AND/OR REMARKS.
   a. All approach side slopes will be constructed on not less than 6 to 1 slope, unless otherwise approved.
   b. No private signs or devices etc., will be constructed or installed within the highway right-of-way limits.
   c. This permit is valid only if approach construction is completed within 1 months from date of issue.
   d. ☐ See attached addendum.

Dated at MDT Butte, Montana, this 30th day of October, 2008.

The undersigned, the "Permittee" mentioned in the aforegoing instrument, hereby accepts this permit, together with all of the terms and conditions set forth therein.

DEPARTMENT OF TRANSPORTATION

Completed Approach Inspected by:

Date

Permittee

Title

- One copy of permit to District Administrator for file
- One copy of permit to Applicant
- If Access Control is Yes, one copy of permit to Access Manager, R/W Bureau

CN / UPN Project Id	Name/ Location Description	Route/Corr. Fed. Funds Involved? Yes ☐ No ☐
	(For MDT Use Only)	

ENVIRONMENTAL CHECKLIST FOR: ☐ **Approach Permit** ☐ **Encroachment/Occupancy (incl. Utility)** ☐ **Maintenance Projects (w/ No Right-Of-Way Acquisition, Sale or Transfer)**

Location: Highway or Route No 43 Milepost(s) 50.55

Physical Address: 14.5 miles west City: Wise River

Legal Description: County: Deer Lodge Township: 2N Range: 13W Section(s): 35

Applicant Information: Name: KLSpear Represented by Anderson Engineering Phone: 406-585-1484

Company/Utility Business Phone:

Mailing Address: Street or Box: 2417 W Main Suite 1A City Bozeman State MT Zip Code 59718

Impact Questions Based on ARM 18.2.261 & 23 CFR 771.117 – Actions that qualify for Categorical Exclusion under MEPA or NEPA	Yes	No	Comment or Explanation (Use attachments if necessary)
1. Will the proposed action impact any historical sites?	☐	☒	
2. Will the proposed action impact any publicly owned parklands, recreation areas, wildlife or waterfowl refuges?	☐	☒	
3. Will the proposed action impact prime farmlands?	☐	☒	
4. a. Will the proposed action have an impact on the human environment that may result from relocations of persons or businesses, changes in traffic patterns, changes in grade, or other types of changes?	☐	☒	
b. Has the proposed action received any preliminary or final approval from the local land use authority?	☐	☒	
5. For the proposed action, is there documented controversy on environmental grounds? (i.e. – has the applicant received a letter of petition from an environmental organization?)	☐	☒	
6. Will the proposed action require work in, across or adjacent to listed or proposed Wild or Scenic River? (See listing on page 2)	☐	☒	
7. Will the proposed action impact air quality or increase noise?	☐	☒	
8. Will the proposed project involve hazardous waste sites? (Superfund, spills, underground storage tanks, old mines etc.)	☐	☒	
9. Will the proposed action affect water quality, wetlands, streams or other water bodies? If the answer is YES, an environment-related permit or authorization may be required (See Attached "Stream Permitting Guidelines").	☐	☒	
10. a. Are there any listed or proposed threatened or endangered species, or critical habitat in the vicinity of the proposed action?	☐	☒	
b. Will the proposed action adversely affect listed or proposed threatened or endangered species, or adversely modify critical habitat?	☐	☒	
11. Will the proposed action require an environment-related permit or authorization? If the answer is "yes," please list the specific permits or authorizations.	☐	☒	
12. Is the proposed action on or within approximately 1 mile of an Indian Reservation?	☐	☒	
a. If Yes – Will a Tribal Water Permit be required	☐	☒	
13. Is the proposed action in a "Class I Air Shed" (Some Indian Reservations)?	☐	☒	
14. Will the proposed action result in increased traffic volumes, increased wait or delays on state highways, or have adverse impacts on other forms of transportation (rail, transit or air movements)?	☐	☒	
15. Is the proposed action part of a project that may require other governmental permits, licenses or easements? If "Yes" than describe the full extent of the project and any other permits, licenses or easements that may be necessary for the applicant to acquire.	☐	☒	

16. ☒ **Attach representative photos of the sites where the proposed action would be implemented.**

17. ☒ **Attach map(s) showing the location(s) of the proposed action(s), Township, Range, Section, highway or route number and approximate milepost(s).**

18. **Describe Magnitude / Importance of potential impacts: (To be completed by Applicant)(Use Attached Sheets)**

Checklist prepared by: M Ballew Project Engineer 10/7/08

Applicant Title Date

Reviewed for completeness by:

Richard M. Larson	FMS.	10-7-08
MDT District Representative	Title	Date

Approved by:

Environmental Services (When any of the items 1 through 13 are checked "Yes")	Title	Date
Transportation Planning (When items 14 or 15 are checked "Yes")	Title	Date

Checklist Conditions & Required Approvals

A. Applicant is NOT authorized to proceed with the proposed work until ALL of the Checklist Conditions have been met and the required approvals have been obtained.

B. Completes the checklist indicating a "Yes" or "No" for each item,.

C. When a "Yes" is indicated on any of the items except 12 or 13, the Applicant must explain the impacts, and for items 1 through 10 describe any appropriate mitigation measures that will be taken. Use attachments if necessary. If the applicant checks "No" and the District feels there may be potential impacts, the Environmental Checklist must be forwarded to Environmental Services.

D. If a "Yes" is checked in item 10 a. (threatened or endangered species), please provide information naming the particular species and the expected location, distribution and habitat use in the proposed action area, i.e. within the immediate area of the proposed action and possible direct affects to the species; or, in the general area on occasion (seasonally passes through) but does not nest, den or occupy the area for more than a few days – adverse affects are very unlikely.

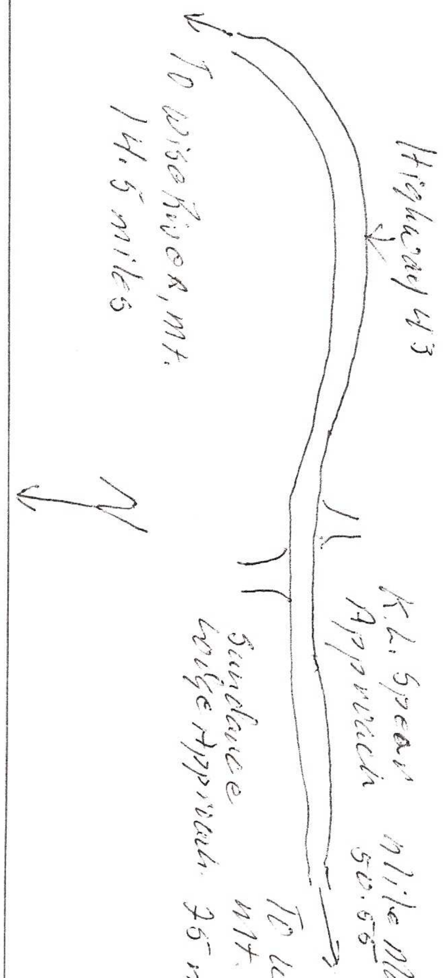
E. If the applicant checks "Yes" for any item, the approach permit, occupancy agreement or permit along with the checklist and Applicant's mitigation proposal, documentation, evaluation and/or permits must be submitted to MDT Environmental Services for review and approval.

F. When the applicant checks "Yes" to any item, the Applicant cannot be authorized to proceed with the proposed work until the MDT Environmental Services and/or Transportation Planning, as appropriate, reviews the information and signs the checklist.

G. Applicant must obtain all necessary permits or authorizations from other entities with jurisdiction prior to beginning the proposed action or activity.

Montana's Wild and Scenic Rivers system as published by the U.S. Department of Agriculture, or the U.S. Department of the Interior:

1. Middle Fork of the Flathead River (headwaters to South Fork of the Flathead River confluence)
2. North Fork of the Flathead River (Canadian Border to Middle Fork of the Flathead River confluence)
3. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir)
4. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge)


Highway 43
K.L. Spear Approach
Mile Marker 50.55
To Wisdom Mt. 25 miles
Sundance Lodge Approach
To Wise River, Mt. 14.5 miles
N

Beaverhead Floodplain Permit

FLOODPLAIN DEVELOPMENT PERMIT

Issued in: Beaverhead County (Community) **Permit #** 05-2008

1. Issued to

(Name) KL Spear and Jane Spear IRR WEA, Voss Bruce

Address C/o Chip Lenihan PO Box 3389

City;	State:	Zip Code:
Telluride	Co.	81435

2. Project Location: Big Hole River at LaMarche Creek

Name of Stream/water body at location of activity,

Location [ ] ¼ [NW] ¼ [SW] ¼ Sect. [35] Township [2N] Range [13W]

Assessor ID# or Tract # 18108735401010000

Project Address 25 Miles West of Divide, MT

3. The proposed development is in the [ ] Floodway [x] Floodway Fringe

[ ] Floodplain with no elevations

4. The Base Flood Elevation at the project site is: 5821.95

[ ] NAVD [X] NGVD

5. Source Documents: See EA, HecRaz, and other documents in File

6. For structures requiring elevation certification:

MSL Elevation to which lowest floor is to be elevated:		MSL
MSL Elevation to which structure is to be flood proofed:		MSL
MSL Elevation to which compacted fill is to be elevated:		MSL

7. Brief description of project: A bridge stream crossing of the main channel of the Big Hole River, a bridge stream crossing on a side channel/tributary of the Big Hole River and associated approach roads for the project.

8. Purpose of Project: To provide vehicular access to the property on the opposite side of the river.

9. Action Taken:

[X] The proposed development is in partial conformance with the applicable Floodplain Management Standards. **A conditional approval is granted, Conditions attached.**

[ ] The plan and materials submitted in support of the proposed development are in compliance with applicable Floodplain Management Standards. **Permit is approved.**

[ ] The proposed development is not in conformation with the applicable Floodplain Management Standards the application is **DENIED** see attached letter of explanation.

Findings: After approval of the technical review by Jim Beck, regional engineer for DNRC, the applicants have met the requirements of the Beaverhead County and State of Montana Floodplain requirements.

Conditions of Approval:

1. **Bridges and roads will be constructed as designed and will be certified by a licensed engineer.**
2. **Approach roads will be constructed at grade with minimal fill for the approaches located in the floodplain, to minimize the impacts on the base flood elevations.**
3. **A final inspection and approval by the Beaverhead County floodplain administrator will be required.**

In accepting this permit, the applicant understands that all conditions of the permit must be met, all other regulatory permits have been obtained, an elevation certificate will be provided once project is completed, and agrees to allow on-site inspections, as needed during or after construction, to determine compliance with this permit.

UNDERSTOOD AND ACCEPTED THIS _____ DAY OF _____ YEAR _____

_____
(Applicant)

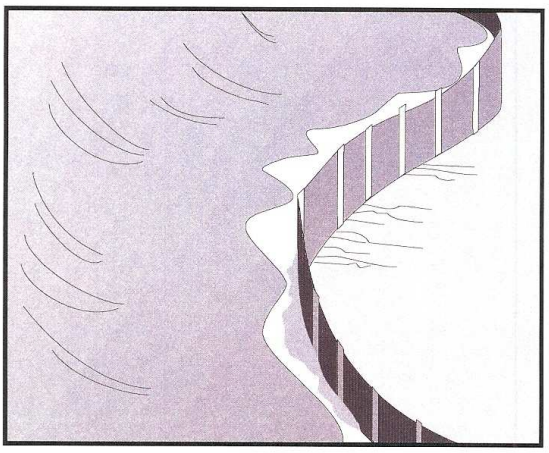
_____
(Local Floodplain Administrator)

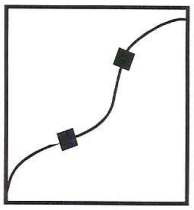
APPENDIX B

Appendix B

Silt Fence

Silt Fence SC-1





BMP Objectives

- ○ Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A silt fence is a temporary linear sediment barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff. Silt fences allow sediment to settle from runoff before water leaves the construction site.

Appropriate Applications

Silt fences are placed:

- Below the toe of exposed and erodible slopes.
- Down-slope of exposed soil areas.
- Around temporary stockpiles.
- Along streams and channels.

Limitations

- Not effective unless trenched and keyed in.
- Not intended for use as mid-slope protection on slopes greater than 4:1.
- Must be maintained to remain effective.
- Not intended for use in streams, channels, or anywhere flow is concentrated.
- Difficult to install and maintain in windy areas.
- Must be removed and disposed of.

Design Guidelines and Considerations

- Do not use below slopes subject to creep, slumping, or landslides.
- Do not use in streams, channels, or anywhere flow is concentrated.
- Do not use silt fences to divert flow.
- The maximum length of slope upgradient of the silt fence should be 60 m (200 ft) or less to minimize flow volumes and velocities and increase the effectiveness of the silt fence.
- Slope of areas draining to fence should be less than 1:1 but can be used below steeper slopes at the Engineers discretion.
- Limit to locations suitable for temporary ponding or deposition of sediment.
- Fabric life span generally limited to between five and eight months. Longer periods may require fabric replacement.
- Lay out in accordance with MDT Standard Specifications for Geosynthetics Construction and the Silt Fence (SC-1) Detail Drawing.
- For slopes steeper than 2:1 and that contain a high number of rocks or large dirt clods that tend to dislodge, it may be necessary to install additional protection immediately adjacent to the bottom of the slope, prior to installing silt fence or use stabilized silt fencing installation method as shown in the Silt Fence (SC-1) Detail Drawing.
- For slopes adjacent to water bodies, additional soil stabilization BMPs shall be used.
- Materials shall conform to MDT Standard Specification - Geosynthetic Construction and Miscellaneous Materials.
- Generally, silt fences should be used in conjunction with soil stabilization source controls up slope to provide effective control.
- Trenches should not be excavated wider and deeper than necessary for proper installation of the temporary linear sediment barriers.
- Excavation of the trenches should be performed immediately before installation of the temporary linear sediment barriers.
- Silt fences should be set back at least 1 m (3 ft) from the toe of a slope. Where a silt fence is determined to be not practicable due to specific site conditions, the silt fence may be constructed at the toe of the slope, but should be constructed as far from the toe of the slope as practicable.
- Construct the length of each silt fence section so that the change in base elevation along the section does not exceed 1/3 the height of the barrier. This will minimize the chance of storm water from the higher elevation areas traveling along the silt fence from overtopping the silt fence in the lower elevation areas. Each silt fence reach should be limited to 150 m

(500 ft) in order to minimize the amount of water that may accumulate in lower elevation areas.

- When stabilized silt fences are required, they should be installed with steel posts and wire backing following MDT Standard Specifications and the Silt Fence (SC-1) Detail Drawing.
- Cross barriers (barriers that limit water movement along the silt fence) should be a minimum of 1/3 and a maximum of 1/2 the height of the silt fence. Cross barrier placement along silt fencing is shown in the Silt Fence (SC-1) Detail Drawing.

Maintenance, Inspection, and Removal

- Repair undercut silt fences as soon as possible.
- Repair or replace split, torn, slumping, or weathered fabric as soon as possible.
- Inspect silt fence when rain is forecast. Perform necessary maintenance, or maintenance required by the Engineer.
- Inspect silt fence following rainfall events. Perform maintenance as necessary, or as required by the Engineer.
- Maintain silt fences to provide adequate sediment holding capacity. Sediment should be removed when the sediment accumulation reaches 1/3 of the barrier height. Removed sediment should be incorporated in the project at locations designated by the Engineer or disposed of outside the right-of-way as approved by the Engineer.
- Silt fences that are damaged and become unsuitable for the intended purpose, as determined by the Engineer, should be removed from the site and disposed of outside the right-of-way in conformance with the Standard Specifications. Replace damaged silt fence with new silt fence in accordance to MDT Special Provisions and Detail Drawings.
- Holes, depressions or other ground disturbance caused by the removal of the temporary silt fences should be backfilled and repaired.
- Remove silt fence when no longer needed or as required by the Engineer. Fill and compact postholes and anchorage trench, remove sediment accumulation, and grade fence alignment to blend with adjacent ground.

SYMBOL: ——————— ———SF———

SILT FENCE SC-1:

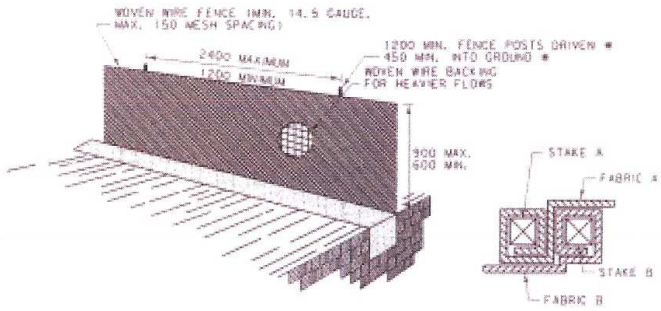
SILT FENCE IS A SINGLE OR SERIES OF FILTER FABRIC SEDIMENT BARRIER STRETCHED AND ATTACHED TO SUPPORTING POSTS. THE FENCE BOTTOM IS ENTRENCHED.

SILT FENCES ARE USED FOR SHEET FLOWS TO ASSIST IN SEDIMENT CONTROL BY RETAINING SOME OF THE ERODED SOIL PARTICLES AND SLOWING THE RUNOFF VELOCITY TO ALLOW PARTICLE SETTLING. APPLICATIONS INCLUDE WATER RESOURCE PROTECTION, INLET PROTECTION, BANK PROTECTION, AND TOE OF SLOPE PROTECTION. INSTALL SILT FENCES PRIOR TO DISTURBING AREAS REQUIRING THIS BMP OR AS SLOPE GRADES ARE ACHIEVED. MAXIMUM CUT OR FILL SLOPE FOR A SILT FENCE IS 2:1. FOLLOW MDT STANDARD SPECIFICATION 622 FOR SILT FENCE MATERIALS AND INSTALLATION.

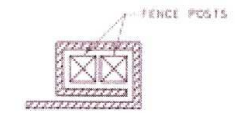
THERE ARE TWO TYPE OF SILT FENCE INSTALLATIONS:
- UNSTABILIZED - SILT FENCE SUPPORTED WITH EITHER WOOD OR METAL FENCE POSTS.
- STABILIZED - SILT FENCE SUPPORTED WITH METAL POSTS AND WITH WOVEN WIRE BACKING.

ENTRENCHMENT - THE INITIAL SILT FENCE INSTALLATION REQUIRES ONLY THE VERTICAL ENTRENCHMENT COMPONENT UNLESS THE ENGINEER DETERMINES BOTH VERTICAL AND HORIZONTAL ENTRENCHMENT COMPONENTS ARE NECESSARY. IF THE FENCE REQUIRES REPLACEMENT DUE TO FAILURE FROM PULLOUT OR UNDERCUTTING, THE SUBSEQUENT INSTALLATION WILL INCLUDE BOTH VERTICAL AND HORIZONTAL ENTRENCHMENT COMPONENTS.

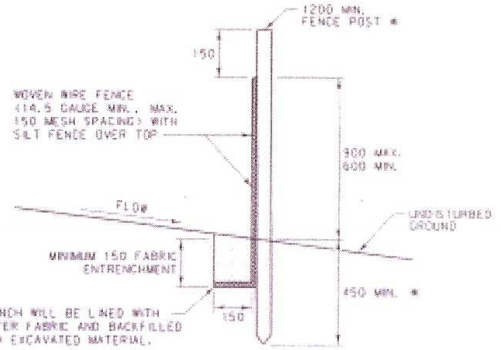
SILT FENCES ARE USED BETWEEN THE EDGE OF CONSTRUCTION DISTURBANCE AND A WATER RESOURCE, AND AT A CRITICAL RESOURCE OR RIGHT-OF-WAY LINE THAT IS ADJACENT TO CONSTRUCTION ACTIVITY. POSITION THE BARRIER TO PREVENT SEDIMENT FROM ENTERING DRAINAGES. DO NOT PLACE THE BARRIER ACROSS LIVE STREAMS. WOVEN WIRE BACKING IS NECESSARY WHEN DEALING WITH HEAVIER FLOW VELOCITIES AND SEDIMENT OR AS A ROCK BARRIER. REMOVE SEDIMENT FROM BEHIND THE FENCE WHEN IT ACCUMULATES TO ONE-THIRD THE ORIGINAL HEIGHT. EITHER GRADE AND SEED OR REMOVE THE SEDIMENT DEPOSITS PRIOR TO REMOVAL OF THE FENCE. DISTANCES BETWEEN SILT FENCE WHEN USED FOR SEDIMENT RETENTION ARE AS FOLLOWS:
- FROM 2% TO 3% PLACE SILT FENCE AT 150 METER SPACING
- FROM 3% TO 4% PLACE SILT FENCE AT 90 METER SPACING
- FROM 4% + PLACE SILT FENCE AT 45 METER SPACING



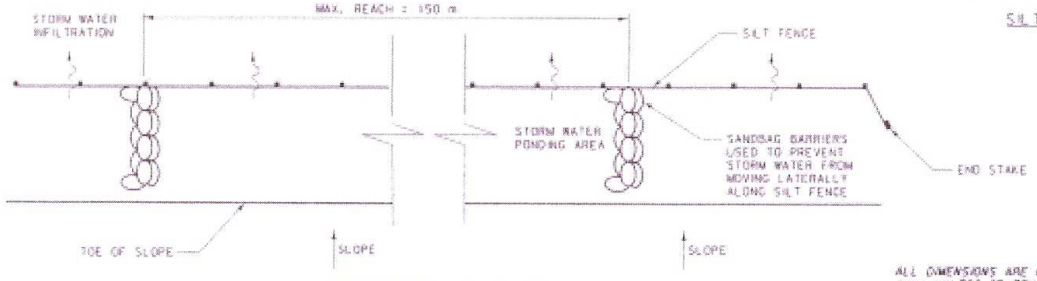
JOINING SECTION DETAIL



END STAKE DETAIL



SILT FENCE - CROSS SECTION



SILT FENCE - PLAN VIEW

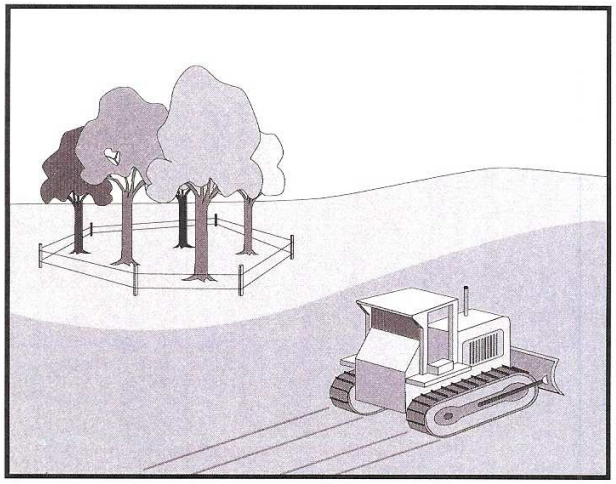
* FOR CLEAR ZONE APPLICATIONS USE MAX. POST LENGTH OF 1500 mm WITH A MAX. INITIAL DEPTH OF 450 mm.

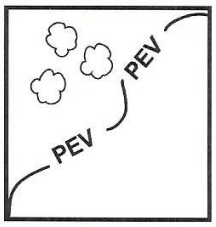
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

PRELIMINARY

REFERENCE STANDARD SPEC. SECTION 208	DWG. NO. 208-22
SILT FENCE (SC-1)	
EFFECTIVE:	
CDM Camp Dresser & McKee Inc.	

Preservation of Existing Vegetation SS-2





BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Preservation of existing vegetation relates to the identification and protection of desirable vegetation. Benefits of preservation of existing vegetation include minimizing disturbance on construction sites, erosion control, detention, and infiltration of storm water, biofiltration, velocity dissipation and aesthetic value.

Appropriate Applications

- Preserve existing vegetation at areas on a site where no construction activity is planned or where activities may occur at a later date.
- Beneficial for use in wetlands, floodplains, stream banks, steep slopes and other areas where erosion controls would be difficult to establish, install, or maintain.
- Preservation of existing vegetation is also used to maintain pre-construction drainage patterns to avoid vegetation die off as a result of water flows being intercepted and diverted away from the existing vegetation.
- On a year-round basis, temporary fencing can be installed prior to clearing and grubbing operations or other soil-disturbing activities in areas where no construction activity is planned or will occur later. Upon Engineer's approval, flagging or verbal designation of vegetation preservation areas may be substituted for temporary fencing.
- No grading or disturbances occurs in areas identified on the plans to be preserved.
- Protection of existing vegetation requires planning, and may limit the area available for construction activities.

Design Guidelines and Considerations

- Preservation of existing vegetation is best provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas where no construction activity is planned or will occur later.

- Preservation of existing vegetation needs to conform to scheduling requirements set forth in the special provisions.

- Mark areas to be preserved with temporary fencing made of orange polypropylene that is stabilized against ultraviolet light. MDT Standard Specifications and Detail Drawings outline the installation of temporary fencing.

- Minimize the disturbed areas by locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cutting and filling.

- Consider the impact of grade changes to existing vegetation and the root zone.

- Locate construction materials, equipment storage, and parking areas to minimize root compaction. Staging areas should be selected to avoid negatively impacting large areas of existing vegetation.

- Keep equipment away from trees to prevent trunk and root damage.

- Maintain existing irrigation systems.

- Protective devices are only effective if all personnel understand and honor them. No heavy equipment, vehicular traffic, or stock piles of construction materials shall be permitted within the drip line of trees. Removed trees shall not be felled, pushed, or pulled into any retained trees. Fires shall not be permitted within 30 m (100 ft) of the drip line of any retained trees. No toxic or construction materials - including paint, acid, nails, gypsum board, chemicals, fuels, and lubricants - shall be stored within 15 m (50 ft) of the drip line of any retained trees, nor shall they be disposed of in any way which would injure vegetation.

Maintenance, Inspection, and Removal

- During construction, clearly marked limits of disturbance should be observable at all times. Irrigate or maintain the existing vegetation in conformance to the requirements in the landscaping plan. If damage to protected trees still occurs, notify the MDT Agronomist and arrange for any repairs. Remove fencing and flagging according to the BMP removal schedule.

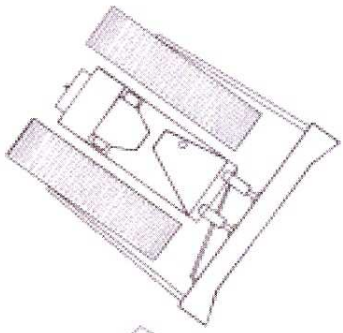
SYMBOL: ——————— ———PEV———

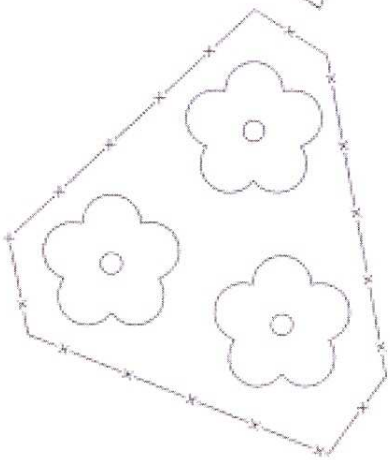
PRESERVATION OF EXISTING VEGETATION ISS-21

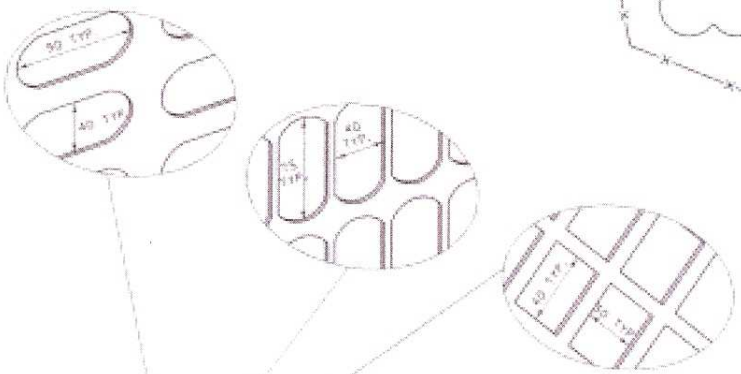
PRESERVATION OF EXISTING VEGETATION IS THE IDENTIFICATION AND PROTECTION OF DESIRABLE VEGETATION THAT PROVIDES EROSION AND SEDIMENT CONTROL BENEFITS. PROVIDE PRESERVATION OF EXISTING VEGETATION PRIOR TO COMMENCEMENT OF CLEARING AND GRUBBING OPERATIONS OR OTHER SOIL DISTURBING ACTIVITIES. MARK THE AREA AS DESIGNATED ON THE CONSTRUCTION PLANS USING TEMPORARY FENCING MADE OF ORANGE POLYPROPYLENE THAT IS STABILIZED AGAINST ULTRAVIOLET LIGHT. AFFIX FENCING TO METAL "T" POST USING 1.05 mm WIRE. PLACE FENCING AN ADEQUATE DISTANCE FROM TREES AND BUSHES TO PREVENT ROOT AND IRRIGATION SYSTEM DAMAGE.

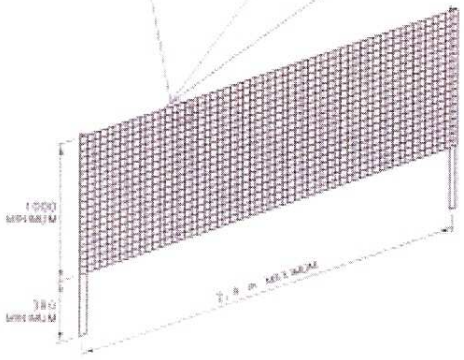
UPON WRITTEN APPROVAL BY THE ENGINEER, THE CONTRACTOR MAY BE ALLOWED TO FLAG OR VERBALLY DESIGNATE AREAS OF EXISTING VEGETATIVE PRESERVATION.

PRESERVATION OF EXISTING VEGETATION MAY BE USED IN CONJUNCTION WITH VEGETATIVE BUFFER ISS-141, WIND EROSION CONTROL ISS-11 AND SNOW ACCUMULATION ISS-11.









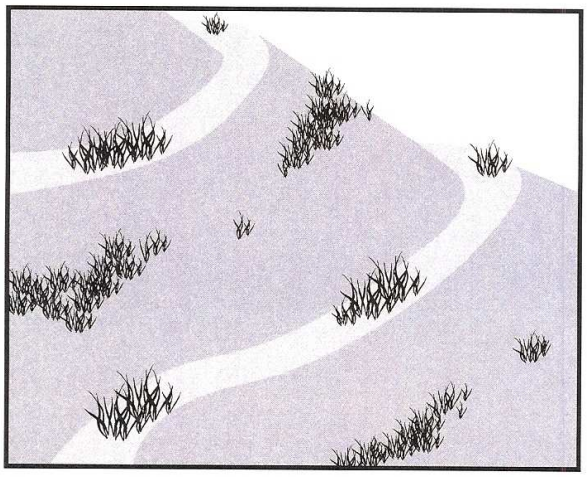
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

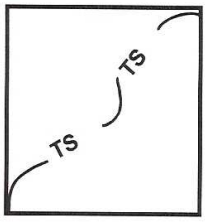
PRELIMINARY

REFERENCE STANDARDS SPEC. SECTION 208	DWG. NO. 208-27
PRESERVATION OF EXISTING VEGETATION ISS-21	
EFFECTIVE:	
CDM Camp Dresser & McKee Inc.	

Temporary Seeding

Temporary Seeding SS-4





BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Well-established vegetative cover is one of the best erosion control measures available. **Temporary seeding** is the establishment of a temporary vegetative cover on areas with a **slope of 3:1** or flatter that will be exposed for longer than 14 days and that will undergo further disturbance. Temporary seeding is not the same as erosion seeding. **Erosion seeding** (as shown in SS-15) is the immediate seeding of freshly exposed cut and fill **slopes steeper than 3:1** that will not undergo further disturbance. Cereal barley is used as the vegetative cover for temporary seeding. Erosion seeding uses a mixture of seed.

Appropriate Applications

- Temporary seeding is used on disturbed areas requiring temporary protection until permanent vegetation is established, or areas that must be re-disturbed following an extended period of inactivity. Temporary seeding can provide rapid erosion protection on disturbed areas. Once established temporary seeding also traps sediments, promotes infiltration, and improves the appearance of the site. Temporary seeding is a relatively inexpensive erosion control measure.

Limitations

- Rock slopes that cannot be excavated by ripping are not temporarily seeded.
- Temporary seeding may not be appropriate in dry areas or periods without supplemental irrigation.
- Areas impacted by construction traffic will not have successful vegetative growth.
- Temporary seeding should only be utilized when there is sufficient time and conditions are favorable for the vegetation to become established.

- Mulching may be necessary in addition to temporary seeding during the establishment of vegetation because temporary vegetation takes several weeks to establish.
- Steep slopes are not to be seeded with the temporary seeding mix. Erosion seeding shall be substituted for temporary seeding when slopes steeper than 3:1.
- Temporary vegetation is not appropriate for short-term inactivity (less than 14 days).
- Seeding applications may require fertilizer to establish on poor quality soils.

Design Guidelines and Considerations

- Seeding dates and application rates are as follows:

April 1 – June 30	Cereal Barley – 13.5 kg/ha (12.0 lbs/ac)
July 1 – August 31	Temporary Seeding Not Recommended
Sept. 1 – Nov. 15	Cereal Barley – 13.5 kg/ha* (12.0 lbs/ac)

* Do not temporary seed in this timeframe if the area is to be permanently seeded that fall.

- Contact the MDT agronomist, through the Engineer, prior to using substitutions or placing temporary seeding outside these dates. Substitutions shall be approved in writing by the Engineer during the construction phase.
- Drill seed slopes of 3:1 or flatter.
- Following to application, roughen the slopes, or areas to be seeded with the furrows trending along the contours.
- Mulch should be considered in combination with temporary seeding to enhance plant establishment. Mulch will help keep seeds in place and will moderate soil moisture and temperature until the seeds germinate.
- All seeds shall be in conformance with MDT Standard Specifications. Each seed bag shall be delivered to the site sealed and clearly marked as to species, purity, percent germination, manufacture's guarantee, and dates of test.
- Follow-up applications shall be made as needed to cover spots of poor germination, and to maintain adequate soil protection.

Maintenance, Inspection, and Removal

- All seeded areas shall be inspected for failures, re-seeded, and mulched within the planting season, using no less than half the original application rates. Any temporary seeding efforts that do not provide adequate cover must be revegetated as required by the Engineer.
- After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.

SYMBOL: ———————— ———TS———

TEMPORARY SEEDING SS-41

TEMPORARY SEEDING IS THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER BY SEEDING WITH CEREAL BARLEY. USE TEMPORARY SEEDING ON AREAS 3:1 OR FLATTER THAT WILL BE EXPOSED FOR LONGER THAN 14 DAYS AND THAT WILL UNDERGO FURTHER DISTURBANCE. EXCLUDE ROCK SLOPES THAT CANNOT BE EXCAVATED BY RIPPING.

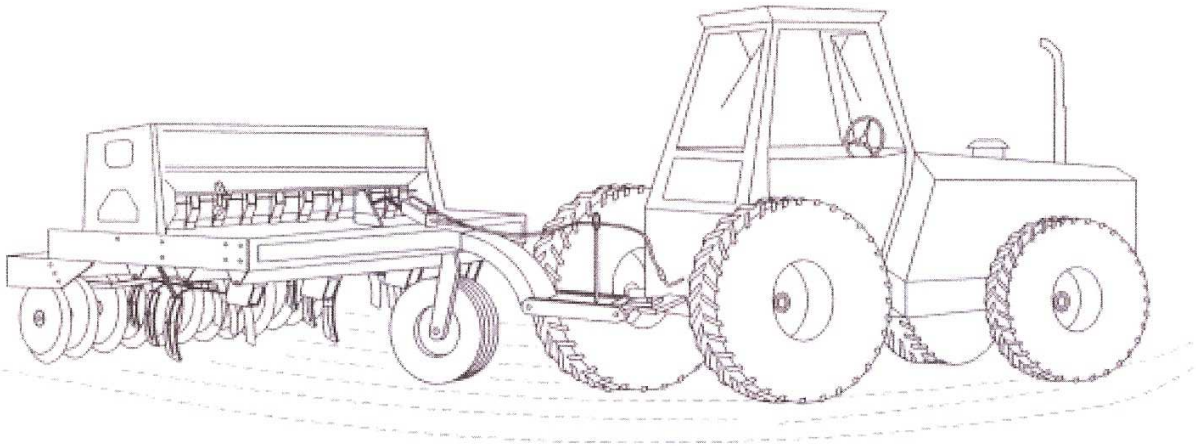
SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:

APR. 1 TO JUN. 30: CEREAL BARLEY AT 13.5 kg/ha
JUL. 1 TO AUG. 31: TEMPORARY SEEDING NOT RECOMMENDED
SEP. 1 TO NOV. 15: CEREAL BARLEY AT 13.5 kg/ha

DO NOT TEMPORARY SEED FROM SEP. 1 TO NOV. 15 IF THE AREA IS TO BE PERMANENTLY SEEDED THAT FALL.

CONTACT THE MOT AGRONOMIST, THROUGH THE ENGINEER, PRIOR TO USING SUBSTITUTIONS OR PLACING TEMPORARY SEEDING OUTSIDE THESE DATES. DRILL SEED SLOPES OF 3:1 OR FLATTER. FOR SLOPES STEEPER THAN 3:1, REFER TO EROSION SEEDING.

ANY TEMPORARY SEEDING EFFORTS THAT DO NOT PROVIDE ADEQUATE COVER MUST BE RE SEEDED AS REQUIRED BY THE ENGINEER.

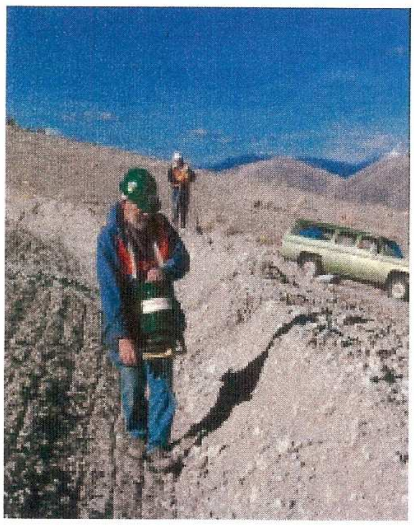


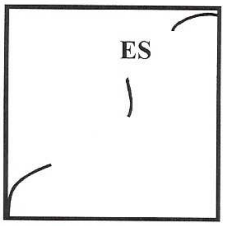
SLOPES 3:1 OR FLATTER

PRELIMINARY

REFERENCE STANDARD SPEC. SECTION 208	DWG. NO. 208-77
TEMPORARY SEEDING TSS-41	
EFFECTIVE:	
CDM Camp Dresser & McKee Inc.	

Erosion Seeding SS-15





BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Well-established vegetative cover is one of the best erosion control measures available. Erosion seeding is the immediate seeding of freshly exposed slopes. Use erosion seeding on cut and fill slopes steeper than 3:1 that will not undergo further disturbance. Erosion seeding is not the same as temporary seeding. Temporary seeding (as shown in SS-4) is the establishment of a temporary vegetative cover on areas with a slope of 3:1 or flatter that will be exposed for longer than 14 days and that will undergo further disturbance. Erosion seeding uses a mixture of seed.

Appropriate Applications

Erosion seeding is used on freshly exposed slopes requiring temporary protection until permanent vegetation is established. Erosion seeding provides erosion protection on disturbed areas and traps sediments, promotes infiltration, and improves the appearance of the site. Erosion seeding is a relatively inexpensive erosion control measure.

Limitations

- Rock slopes that cannot be excavated by ripping are not seeded.
- Erosion seeding may not be appropriate in dry areas or periods without supplemental irrigation.
- Erosion seeding vegetation may have to be removed before permanent vegetation is applied.

Design Guidelines and Considerations

- The erosion seed mix and rate of application are found in the MDT Erosion Seeding (SS-15) Detail Drawing.

- Freshly exposed slopes are to be seeded daily, regardless of the time of year.
- Accomplish seeding by manual broadcasting with a shoulder-harnessed spreader seeder or its equivalent.
- Store the recommended mix on-site prior to initiation of slope excavation.
- If one or more species is unavailable, contact the MDT Agronomist, through the Engineer, for the substitute. Substitutions shall be approved in writing by the Engineer during the construction phase.
- The following considerations should be addressed if a hydroseeder is approved by the MDT Agronomist, through the Engineer, instead of manual broadcasting with a shoulder-harnessed spreader:
  - Hydroseeding typically consists of applying a mixture of fiber, seed, fertilizer, and stabilizing emulsion with hydro-mulch equipment, which temporarily protects exposed soils from erosion by water and wind. In order to select appropriate hydroseeding mixtures, an evaluation of site conditions shall be performed with respect to soil conditions, maintenance requirements, site topography, sensitive adjacent areas, season and climate, water availability, vegetation types, and plans for permanent vegetation.
  - Selection of hydroseeding mixtures shall be approved through the Engineer by the MDT Agronomist.
  - The following steps shall be followed for implementation:
  - Seed mix shall comply with MDT Erosion Seeding (SS-15) Detail Drawing and the project's special provisions.
  - Hydroseeding can be accomplished using a multiple-step or one-step process. The multiple-step process ensures maximum direct contact of the seeds to soil. When the one-step process is used to apply the mixture of fiber, seed, etc., the seed rate shall be increased to compensate for all seeds not having direct contact with the soil.
  - Each seed bag shall be delivered to the site sealed and clearly marked as to species, purity, percent germination, dealer's guarantee, and dates of test. The container shall be labeled to clearly reflect the amount of Pure Live Seed (PLS) contained. All legume seed shall be pellet-inoculated. Inoculant sources shall be species specific and shall be applied at a rate of 2 kg (4.5 lbs) of inoculant per 100 kg (220 lbs) of seed.
  - Follow-up applications shall be made as needed to cover weak spots and to maintain adequate soil protection.
  - Avoid over-spray onto the travel way, sidewalks, lined drainage channels, and existing vegetation.

Maintenance, Inspection, and Removal

- All seeded areas shall be inspected for failures and re-seeded within the planting season following guidance from the MDT Agronomist. Any temporary revegetation efforts that do not provide adequate cover must be revegetated as required by the Engineer.

- After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.

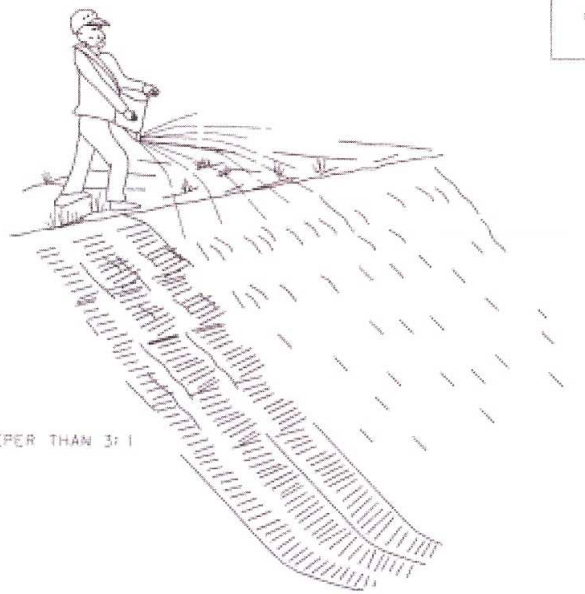
SYMBOL: ———————— ———ES———

EROSION SEEDING BMP SS-15:

EROSION SEEDING IS THE IMMEDIATE SEEDING OF FRESHLY EXPOSED SLOPES. USE EROSION SEEDING ON CUT AND FILL SLOPES STEEPER THAN 3:1 THAT ARE NOT SUBJECT TO FURTHER DISTURBANCE. EVALUATE ROCK AREAS THAT CANNOT BE RIPPED ON A PROJECT-BY-PROJECT BASIS FOR THE NEED OF EROSION SEEDING. THESE AREAS WILL RECEIVE EROSION SEEDING FOLLOWING THE ENGINEER'S APPROVAL. SEEDING DOES NOT REPLACE OR SUBSTITUTE FOR FINAL SEEDING ACTIVITIES SPECIFIED IN THE SEEDING SPECIAL PROVISION.

SEED COMPLETED SECTIONS DAILY, REGARDLESS OF THE TIME OF YEAR. ACCOMPLISH SEEDING BY MANUAL BROADCASTING WITH A SHOULDER HARNESSED SPREADER SEEDER WITH NO MULCH OR FERTILIZER APPLIED. TRACK AREAS FOLLOWING SEEDING IN ACCORDANCE TO BMP SS-12, SLOPE ROUGHENING. HYDROSEEDING MAY ONLY BE USED AS APPROVED BY THE MDT AGRONOMIST, THROUGH THE ENGINEER. STORE THE RECOMMENDED SEED MIX ON-SITE PRIOR TO INITIATION OF SLOPE EXCAVATION. IF ONE OR MORE SPECIES IS UNAVAILABLE, CONTACT THE MDT AGRONOMIST, THROUGH THE ENGINEER, FOR THE SUBSTITUTE. THE SEED MIX AND RATE OF APPLICATION ARE AS FOLLOWS:

DISTRICT	SPECIES	kg/ha PLS
1 (MISSOULA)	CANADA WILDRYE	3.5
	SECAR BLUEBUNCH WHEATGRASS	5.5
	CRITANA THICKSPIKE WHEATGRASS	5.5
	COVAR SHEEP FESCUE	2.0
	CEREAL BARLEY	5.5
2, 3, 5 (BUTTE, GREAT FALLS, BILLINGS)	CANADA WILDRYE	3.5
	SECAR BLUEBUNCH WHEATGRASS	5.5
	SODAR STREAMBANK WHEATGRASS	5.5
	COVAR SHEEP FESCUE	2.0
	CEREAL BARLEY	5.5
4 (GLENDIVE)	CANADA WILDRYE	3.5
	SECAR BLUEBUNCH WHEATGRASS	5.5
	ROSANA WESTERN WHEATGRASS	5.5
	LODORM GREEN NEEDLEGRASS	3.5
	CEREAL BARLEY	5.5



SLOPES STEEPER THAN 3:1

PRELIMINARY

REFERENCE STANDARD SPEC. SECTION 208	DWG. NO. 208-27
EROSION SEEDING (SS-15)	
EFFECTIVE:	
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APPENDIX C

Appendix C

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